

1-10-16-10M

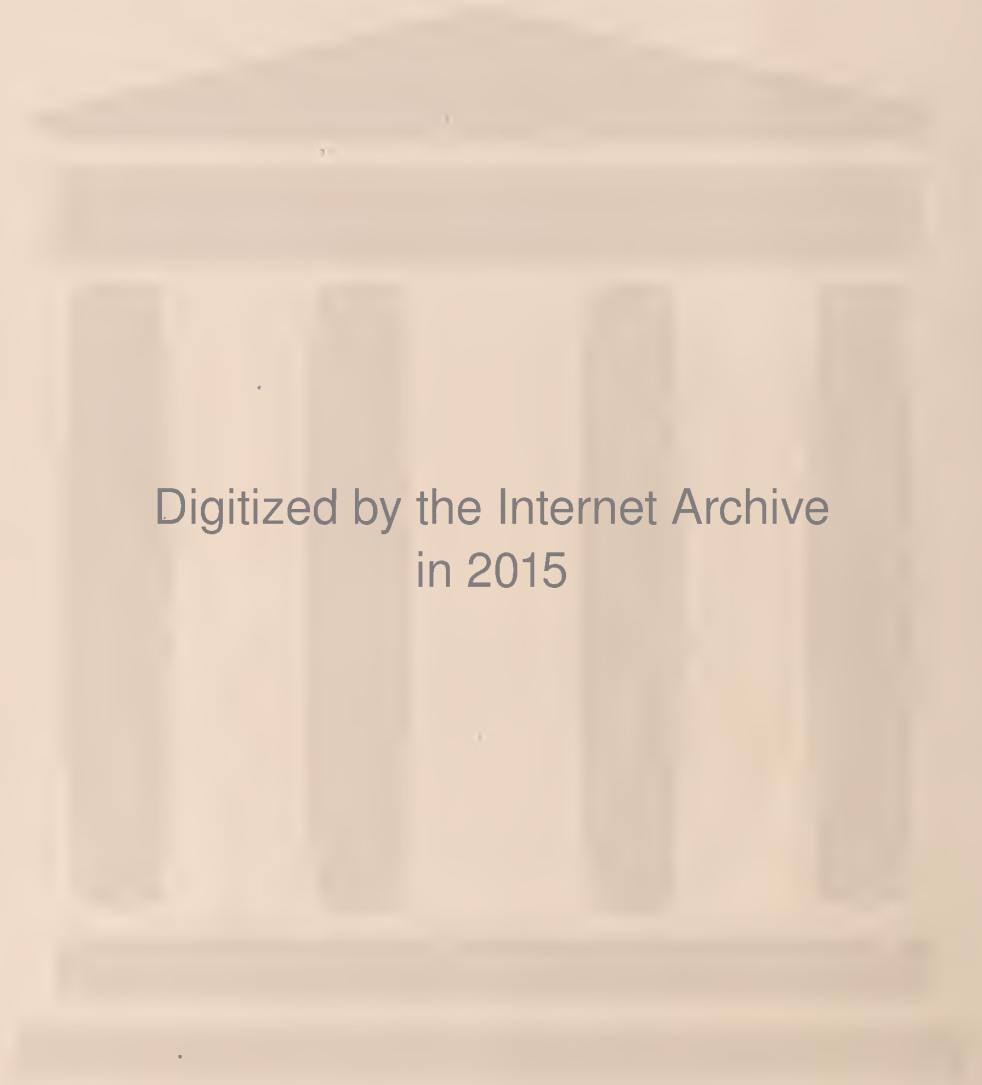
—PRESENTED TO—

S2.A



The New York Academy of Medicine

By Illinois State Medical
Society 19



Digitized by the Internet Archive
in 2015

<https://archive.org/details/illinoismedicalj34unse>

ILLINOIS MEDICAL JOURNAL

THE OFFICIAL ORGAN OF

The Illinois State Medical Society

PUBLISHED AT CHICAGO., ILL.

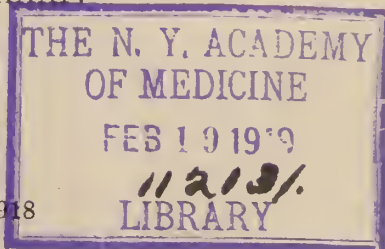
CYLDE D. PENCE, M. D., Editor

HENRY G OHLS, M. D., Managing Editor



INDEX TO VOLUME XXXIV

JULY TO DECEMBER, 1918



1812

INDEX TO VOLUME XXXIV

July to December, 1918

This is an alphabetical index of articles and discussions arranged by leading words. It contains occasional cross references. Names of authors and men who discussed the papers, are also included. Details of society proceedings, including the names of papers read, officers elected, etc., can be located in

the proceedings under Societies. Editorials, News of the State, Marriages, Deaths, Public Health items are classified under these headings. The subjects of editorials and public health items also appear alphabetically and are marked (E) and (PH).

A	
Acidosis, Treatment of. J. H. Stealy, Freeport	129
Allport, Frank. Paper.....	185
American Medical Association War Work. J. W. Van Derslice, Chicago	57
American Public Health Association Meeting (E)	225
American Red Cross Nurses (E)...	172
Ames, F. B. Paper.....	22
Army Medical Corps. E. J. Doering, Chicago	250
Auricular Fibrillation. Jas. C. Carr, Chicago	83

B	
Baumgarten, Walter. Paper.....	314
Bequests to Public Institutions (E)..	24
Berghoff, R. S. Paper.....	241
Boettcher, Henry R. Paper.....	212
Boot, G. W. Paper.....	217

C	
Cancer of Rectum, Operation. Chas. J. Drucek, Chicago.....	255
Cantonments, Health at (E).....	220
Carr, Jas. G. Paper.....	83
Cataract, Operation for Senile. Frank Allport, Chicago	185
Center, Chas. D., Letter.....	108
Chicago Association of Commerce Committee (E).....	220
Civil Administrative Code and Medical Practice Act. F. W. Shepardson, Springfield.....	146
Coolley, E. B. Address.....	1
Cornell, Ed. L. Paper.....	266

Correspondence:	
Council of National Defense. A. M. Corwin	285
Crawford, Dr. C. E.....	286
Physicians Enrollment.....	179
Scrap Platinum	339
Special Appeal, C. W. Lillie.....	173
U. S. Employment Service.....	102
Crossley, E. R. Paper.....	209

Deaths:	
D	
Aimone, John, Granville, Ill.....	296
Andrews, Wells, Chicago.....	112
Bachrach, Julius, Joliet.....	296
Bell, Claudius DeWitt, Chicago..	112
Betts, Lee G., Prairie City, Ill....	346
Beyerlein, Lieut. Arthur Lewis, Chicago	296
Bond, Edwin Everett, Stronghurst.	296
Bonebrake, Melchi, Taylorville, Ill.	345
Buckley, Edw. J., Oak Park.....	295
Brown, James L., Peoria, Ill.....	345
Byers, Lou N., Aurora.....	296
Byrnes, Peter, Chicago.....	240
Byrnes, Thomas Eusebius, Chicago	346
Calvert, Jos. Wallace, Bloomington	240
Colin, George August, Chicago....	296
Craig, John Barnes, Chicago.....	346
Crittenden, Helen, Evanston.....	184
Dornbusch, Lieut. Franklin Henry, Chicago	240
Durkee, Alvaro C., Pontiac.....	240
Dwyer, Harold R., Chicago.....	296
Eichman, Harvey F., Chicago.....	296
Erwin, A. Douglas, Fidelity, Ill..	346
Etzbach, Joseph Frank, Chicago..	346
Evans, Lieut. Arthur Morgan, Chicago	346
Fell, George Edward, Chicago....	184
Finkelberg, Lieut. Morris, Spring Valley	296
Flood, John, Chicago.....	295
French, Aaron Dudley, Allendale, Ill.	346
Geiger, Louis H., Gilman.....	296
Greer, George, Vandalia, Ill.....	345
Gwynne, Evan Edward, Chicago..	56
Harnisch, Frederick Curt, Chicago.	56
Henry, Lucius Norton, Ripley, Ill.	56
Herzog, Capt. Maximilian Joseph, Chicago	184
Hesse, Paul Henry, London Mills, Ill.	346
Hilgard, Major George Engleman, Belleville	112
Holgate, James R., Wyoming, Ill..	112
Joffe, William, Chicago.....	345
Johnson, William H., Barry, Ill...	346

Kauffman, Jesse Robinson, Blue Island, Ill.	346
Knappenberger, Henry, Macomb, Ill.	184
Kratze, Lieut. Louis Robt., Chicago	346
Leiser, Lieut. Sam'l Brody, Chicago	240
Lenard, Robt., Chicago.....	346
Loughridge, Samuel Orr, Peoria..	184
Lindsey, Vachel Thomas, Springfield	295
Leonard, Raymond Lockwood, Chicago	296
Maffit, Wm. T., Chicago.....	112
Markley, Robt. Wm., Rockford, Ill.	184
Martin, Lieut. Harry Paul, Chicago	296
Massman, John, Chicago.....	240
Mathers, Capt. George Shrader, Chicago	296
Maury, Leo Gernand, Chicago....	296
Miller, John Edward, Urbana, Ill.	346
Milnamow, John T., Chicago.....	112
Mitchell, Robert C., Belvidere...	296
Mitchell, Robert Jarvis, Girard....	296
Morgan, Edward Elliott, North Henderson, Ill.	346
Mullen, Isaac Todd, Chicago.....	56
Nason, Wm. Abbott, Algonquin...	112
Newberry, William I., Smithfield, Ill.	346
Newbury, Horace Charles, Chicago	346
Parker, Henry J., Clayton, Ill....	56
Perkins, Orville Juan, Chicago....	56
Pratt, Irene Robinson, Chicago....	56
Priem, Harry William, Chicago...	296
Rahling, Leo Harry, Chicago.....	295
Roewe, Lieut. Henry Joseph, Chicago	296
Rogers, Roy Francis, Springfield, Ill.	346
Schneider, Richard H., Chicago...	346
Searles, Frank Wesley, Mokena, Ill.	56
See, Benjamin J., Harris.....	296
Shaffner, Lieut. Philip Frank, Chicago	296
Shambaugh, Cleveland James, Cherry Valley	56

- Siegfried, Henry David, Denver, Ill. 56
- Stemmel, Sam'l Calhoun, Macomb 184
- Stewart, George A., Brookport, Ill. 346
- Stowe, Herbert M., Chicago..... 296
- Thomas, Eldora Alice, Chicago.... 346
- Tucholka, Louis S., Chicago..... 112
- Van Epps, Lieut. Homer E., Sterling, Ill. 346
- Vaughan, Phillips Carey, Chicago 346
- Warwick, Clarence A., Chicago.... 184
- Waugh, Wm. Francis, Chicago.... 240
- Wells, Wm. H., Stronghurst..... 296
- Weston, Edward B., Chicago..... 240
- White, Joseph Tatum, Freeport.... 56
- White, Marie Louise, Chicago.... 112
- Whitlock, John Thomas, Mt. Vernon 56
- Wilgus, James Livingston, Chicago 56
- Winter, Henry Ahcott, Saybrook.. 112
- Zimmerman, Emil Henry, Cicero, Ill. 346
- Dementia Praecox, Psychiatry of. H. Campbell Stevens, Chicago.... 335
- Diamond, I. B. Paper..... 331
- Diphtheria Vaccination (E)..... 172
- Doering, E. J. Paper..... 250
- Dollear, Albert H. Paper..... 77
- Drake, C. St. Clair. Discussion.... 92
- Drueck, Charles J. Paper..... 255
- E**
- Ear Infections. C. E. Price, Robinson, Ill. 204
- Editorials:
- American Public Health Association Meeting 225
- American Red Cross Nurses..... 172
- Bequests to Public Institutions... 24
- Cantonments, Health at..... 220
- Chicago Association of Commerce Committee 220
- Diphtheria Vaccination 172
- Edmonds Bill 94
- Eye, Ear, Nose and Throat Section Program 283
- Free Treatment for Venereal Cases 338
- Good Roads Bill..... 220
- Grievance Committee 221
- Health Insurance 96
- Influenza 337
- Influenza Epidemic 223, 282
- Influenza Symposium 284
- Insane, in War Time..... 222
- Lake Michigan 94
- Medical Institutions, Need for Another 23
- Medical Reserve Corps Examination 95
- Medical School, The First..... 96
- Paper Shortage 284
- Pasteur Treatment by Mail..... 23
- Peace on Earth..... 337
- Platinum in Unused Instruments.. 231
- Program for Eye, Ear, Nose and Throat Section 338
- Publications by Army Medical Officers 96
- Saving and Investing..... 285
- Te Deum Laudamus..... 339
- Tribute to Dr. Grinstead..... 338
- Tuberculosis, Diagnosis of..... 283
- Two Letters 219
- Uniform Physical Standard in U. S. Army 95
- U. S. Medical Corps Examination 221
- U. S. Public Health Service, Physical Defects 232
- Volunteer Medical Service Corps 173, 227, 283
- Women Physicians for Anesthetic Service 226
- Edmonds Bill. (E)..... 94
- Eisen, Paul. Paper..... 14
- Eisendrath, Daniel N. Paper..... 71
- Epidemiology and Prophylaxis of Lobar Pneumonia. Walter Baumgarten, St. Louis, Mo..... 314
- Exophthalmos, Spontaneous Pulsating. G. W. Boot, Chicago..... 217
- Eye, Ear, Nose and Throat Section Program. (E)..... 283
- Eye, Foreign Bodies in. John R. Hoffman, Wilmette 260
- Eye Injuries Preventable. Willis O. Nance, Chicago 199
- F**
- Face Mask in Infectious Diseases. A. L. Hoyne, Chicago..... 136
- Faith, Thomas. Paper..... 193
- Fantus, Bernard. Paper..... 159
- Focal Infection and Diseases of the Eye. Thomas Faith, Chicago.... 193
- Free Treatment for Venereal Cases. (E) 338
- G**
- Gall Stone Disease Complicating Pregnancy. Aimé Paul Heineck, Chicago 297
- Gardiner, E. J. Paper..... 277
- Garraghan, Edward F. Paper..... 189
- Gill, John J. Paper..... 326
- Glenn, Fred L. Paper..... 10
- Goiter, Exophthalmic. E. P. Sloan, Bloomington 155
- Goldenburg, Michael. Paper..... 272
- Good Roads Bill. (E)..... 220
- Grievance Committee, Work of. Fred L. Glenn, Chicago..... 10
- Grievance Committee. (E)..... 221
- Grinstead, Tribute to Dr. (E).... 338
- H**
- Health Insurance. (E)..... 96
- Health Insurance, Objections to Compulsory. E. H. Ochsner, Chicago. 244
- Health Laws as Enforced. Albert E. Mowry, Chicago..... 57
- Hearing, Proper Diagnosis as a Guide to Prognosis and Operative Treatment of Impaired. Robert Sonnenschein, Chicago 324
- Heineck, Aimé Paul. Paper..... 297
- Hoffman, John R. Paper..... 260
- Hoyne, Archibald L. Paper..... 136
- Humiston, Charles E. Discussion... 13
- I**
- Illinois State Medical Society, History. Geo. N. Kreider, Springfield 158
- Influenza. (E) 337
- Influenza Epidemic. (E)..... 223, 282
- Influenza Symposium. (E)..... 284
- Insane, In War Time. (E)..... 222
- J**
- Johnson, Chas. B. Paper..... 143
- K**
- Kidney Surgery, Notes on Indications in. G. Kolischer, Chicago..... 327
- Kolischer, G. Paper..... 327
- Kreider, Geo. N. Paper..... 158
- Kretschmer, Herman L. Paper.... 138
- L**
- Lake Michigan. (E)..... 94
- M**
- Mandel, Milton. Paper..... 322
- Marriages:
- Alexander, Lieut. John Harrison, Pittsburgh 184
- Allen, Geo. B., Cary..... 184
- Berghoff, Capt. Robt. Sixtus, Chicago 184
- Buckman, Lieut. Edward, Chicago. 295
- Cannon, Asst. Surg. Frank Mullen, Great Lakes 345
- Dillman, Lieut. John Vardyman, Louisville 56
- Englert, Victor I., Chicago..... 56
- Fenn, George Karl, Chicago..... 112
- Goodyear, Lieut. Henry Marks, Morton 240
- Griffin, J. Harrison, Chicago..... 184
- Hinman, Willis Townsend, Moline 295
- Hirsch, Capt. Edwin Frederick, Chicago 184
- Hyslop, Lieut. Clayton James, Chicago 56
- Joyce, Paul Vincent, Chicago..... 112
- McGuire, Lieut. Michael Francis, Chicago 295
- Murphy, Lieut. Leonard J., Fairland, Ill. 345
- Napheys, Capt. Wm. Davison, Chicago 184
- Parsons, Lieut. Robt. Percival, Chicago 295

VOLUME INDEX

Petersen, Anny Marca, Chicago..	112
Reinhardt, Lieut. Charles Henry, Chicago	56
Sherry, Israel, Chicago.....	112
Slaburg, Lieut. Elmer W., Peoria	56
Smith, Fred J., Farmington.....	184
Snively, Wm. D., Rock Island....	295
Sonders, John Cloyd, Rock Island	295
Stevenson, Wm. Warren, Chicago.	56
Strauss, Capt. Jerome Frank, Chi- cago	112
Watkins, Rachel, Chicago.....	240
Wessel, Percy H., Moline.....	240
Wilson, Lieut. George Howard, Mt. Carmel	112
Medical Institution, Need for An- other. (E)	23
Medical Reserve Corps Examination. (E)	95
Medical School, The First. (E)...	96
Metcalf, Walter B. Paper.....	168, 252
Monopause and Mental Disorder. F. P. Norbury, Springfield, and Alhert II. Dollear, Jacksonville.....	77
Morris, Everett. Paper.....	306
Mowry, Albert E. Paper.....	87

N

Nance, Willis O. Paper.....	199
Nephritis, Trench or War. Is it a Clinical Entity? Milton Mandel, Chicago	322
Nervous Disorders, Interpretation of Symptoms in Functional. I. B. Diamond, Chicago	331
News Items	55, 111, 183, 239, 295
News Notes	344
Norbury, Frank P. Paper.....	77
Norton, Frank J. Paper.....	312

O

Ochsner, Edward H. Paper.....	244
Old Age Postponing. Charles J. Whalen, Chicago.....	120
Ophthalmia Eczematosa. Michael Goldenburg, Chicago	272
Osteosarcoma of Femur and Roentgen Findings. Max Reichmann, Chi- cago	16
Osteosclerosis, Treatment of. H. L. Pollock, Chicago	268

P

Pasteur Treatment by Mail. (E)....	23
Peace on Earth. (E).....	337
Personals	54, 110, 182, 238, 293
Personals	343
Physical Conditions of 800 Regis- trants. Charles B. Johnson, Cbam- paign	143
Pituitrin, Prophylactic Use of. Sam- uel Salinger, Chicago.....	164
Plastic Surgery. Lawrence Ryan, Chicago	64
Platinum in Unused Instruments. (E)	231

Pneumonia, Diplococcus. Frank J. Norton, Chicago	312
Pneumonia, Epidemiology and Propy- laxis of Lobar. Walter Baumgar- ten, St. Louis, Mo.....	314
Pneumonia, A Study of Lobar. Elmer E. Simpson, Chicago.....	316
Pneumothorax, Induced. Its use in Treatment of Pulmonary Tubercu- losis, with report of 202 Cases. Everett Morris, New Haven, Conn.	306
Poisoning, Treatment of Mercuric Chloride. Bernard Fantus, Chi- cago	159
Pollock, H. L. Paper.....	268
Poorman, Charles Wallace. Paper..	133
Pregnancy, Complicated by Gall Stone Disease. Aimé Paul Mcineck, Chi- cago	296
President's Address. E. B. Coolley, Danville	1
Preventive Medicine, Practice of. William S. Sadler, Chicago.....	113
Price, C. E. Paper.....	204
Prostatectomy. Floyd Stewart, St. Louis, Mo.	263
Psychiatry of Dementia Praecox. H. Campbell Stevens, Chicago.....	335
Publications by Army Medical Offi- cers. (E)	96

Public Health:

Birth Registration and the Draft..	102
Contagious Disease Report.....	236
Death Certificate, New Standard..	178
Disease Prevention in Cantonments	100
Health Exhibit Material.....	100
Health Insurance Commission Meetings	288
Illinois Baby Health Conference..	25
Illinois Better Baby Contest....	100
Illinois Course for Community Nurses	25
Illinois Tuberculosis Association...	235
Illinois Vital Statistics, Federal In- vestigation of	101
Infantile Paralysis in Illinois.....	177
Influenza-Pneumonia Epidemic in Illinois Cities	287
Influenza, State Rules.....	234
Military Zone Health District....	234
Morbidity Report	178
Poliomyelitis, Prevalence of.....	101
Sanitary Engineering Activities...	25
State Division of Social Hygiene..	100
Tuberculosis Clinics	235
Tuberculosis Rules Revised.....	25
Tuberculous Soldiers Returned....	178
Typhoid Epidemic at Moline.....	101
Typhoid Fever in Illinois.....	177

Public Health:

Biologic and Research Laboratory..	339
Distribution of Influenza Vaccine..	342
Federal Co-operation in Venereal Disease Work	340
Illinois a Registration State.....	339

Influenza Epidemic in Illinois.....	341
Influenza and Pneumonia Rules...	341
Journal of Orthopedic Surgery.....	342
State and County Collaborating Health Service	340
Public Health, Tuberculosis and Medical Education. W. B. Metcalf, Chicago	168
Pyloric Stenosis, Congenital Hyper- trophic. C. W. Poorman, Oak Park	133

R

Reichmann, Max. Paper.....	16
Robertson, John Dill. Discussion..	91
Robertson, John Dill. Discussion..	123
Roentgen Examination of Kidney Tu- mors. Paul Eisen, Chicago.....	14
Roentgen Examination of Osteosar- coma. Max Reichmann, Chicago..	16
Ryan, Lawrence. Paper.....	64

S

Sadler, William S. Paper.....	113
Salinger, Samuel. Paper.....	164
Saranac, Taking Stock of. F. B. Ames	22
Sarcoma of the Testicle. John J. Gill, Chicago	326
Saving and Investing. (E).....	285
Sclerosis, Multiple. E. R. Cross- ley, Chicago	209
Shepardson, Francis W. Paper....	146
Sherman, William O'Neill. Oration	4
Simpson, Elmer E. Paper.....	316
Sinus Diseases, Treatment of. Otto J. Stein, Chicago.....	202
Sloan, E. P. Paper.....	155

Society Proceedings:

Adams County—July 13, 1918....	103
Christian County—June 27, 1918..	104
Cook County:	
Chicago Laryngological and Oto- logical Society, December 12, 1917—continued	343
Chicago Medical Society—Octo- ber 9 and 16, 1918.....	290
Chicago Medical Society—Novem- ber 6, 13, 20 and 27.....	343
Chicago Laryngological and Oto- logical Society—November 20, 1917 (continued)	52
December 12, 1917.....	290
Chicago Ophthalmological Society December 17, 1917.....	51
December 17, 1917 (continued)	104
Crawford County—June 20, 1918.	53
DeKalb County—July 31, 1918....	106
Fulton County—July 2, 1918.....	106
Illinois State Medical Society, Of- ficial Minutes, Annual Meeting— May 21 to 23, 1918.....	27
Madison County—June 7, 1918....	106
July 5, 1918.....	236

August, 1918	236
September 6, 1918.....	237
Pike County—July 25, 1918.....	109
Quoto County Picnic—September 15, 1918	237
Randolph County—July 25, 1918..	109
August 29, 1918.....	237
St. Clair County—September 5, 1918	238
Solomon, C. H. Paper.....	18
Sonnenschein, Robert. Paper.....	324
Squint, Incipient. E. J. Gardiner, Chicago	277
State Board Examination.....	179
Status-Thymus-Lymphaticus. E. F. Garraghan, Chicago	189
Stcaly, J. H. Paper.....	129
Stein, Otto J. Paper.....	202
Stevens, H. Campbell. Paper.....	335
Stewart, Floyd. Paper.....	263
Stillbirth Due to Infection. Ed L. Cornell, Chicago	266

Strictures of the Urethra. C. H. Solomon, Chicago	18
Surgery, Oration. W. O'Neill Sher- man, Pittsburgh, Pa.....	4

T

Te Deum Laudamus. (E).....	339
Testicle, Sarcoma of. John J. Gill, Chicago	326
Tonsillectomy, Ligature of Vessels. R. H. Boettcher, Chicago.....	212
Trench or War Nephritis. Milton Mandel, Chicago	322
Tuberculosis, Diagnosis of. (E)....	283
Tuberculosis of Bronchial Glands. Walter B. Metcalf, Chicago.....	252
Tuberculosis in Army, Diagnosis. R. S. Berghoff, Camp Grant.....	241
Tuberculosis of Kidney, Diagnosis and Treatment. Daniel N. Eisen- drath, Chicago	71
Tuberculosis, Surgical Treatment of Renal. H. L. Kretschmer, Chicago	138

Tuberculosis Treated by Induced Pneumothorax. Everett Morris, New Haven, Conn.....	306
Tumors, Roentgen Examinations of. Paul Eisen, Chicago.....	14
Two Letters. (E).....	219

U

Uniform Physical Standard in U. S. Army. (E)	95
U. S. Medical Corps Examination. (E)	221
U. S. Public Health Service, Phys- ical Defects. (E).....	232

V

Van Derslice, J. W. Paper.....	57
Volunteer Medical Service Corps. (E)	173, 227, 283

W

Whalen, Charles J. Paper.....	120
Women Physicians for Anesthetic Service. (E)	226



E. W. FIEGENBAUM, M. D.
PRESIDENT ILLINOIS STATE MEDICAL SOCIETY, 1918-19

ILLINOIS MEDICAL JOURNAL

THE OFFICIAL ORGAN OF

THE ILLINOIS STATE MEDICAL SOCIETY

VOL. XXXIV

CHICAGO, ILL., JULY, 1918

No. 1

Original Articles

PRESIDENT'S ADDRESS.*

E. B. COOLLEY, M. D.
DANVILLE, ILL.

Mr. President, Ladies and Gentlemen:

The accomplishments of the Illinois State Medical Society during the past year have been most gratifying, and in the light of recent events, it is apparent that the misgivings experienced by some of us last year in regard to the success of this meeting were groundless.

With the contemplation of the stupendous demands which a nation at war must necessarily make upon the medical profession, several grave questions presented themselves.

1. Would the necessary number of strong medical men voluntarily enter the overseas war?

2. With what versatility would these men adapt themselves to their military duties?

3. How well would they succeed in this absolutely new field?

4. What effect would their absence have upon the profession remaining in civil life, and upon this Society?

5. With how much enthusiasm and ability would those compelled to remain in civil life discharge their important duties in the selection of the army on which we were to depend for victory?

6. From where were the rugged, future doctors of this nation to come, should the student-body be conscripted?

7. What would be the effect of the war upon the medical universities of the state?

8. With that zeal and foresight would those who remained at home discharge their duty to our valiant surgeons in France by discharging their plain duty to their Society?—the society, in the affairs of which these men led, and in the success of which they gloried.

Believing, as I did, in the loyalty of the men of our profession, I could not doubt their willingness to co-operate in every possible way with the Federal Government; but my faith in their ability to adapt themselves to an absolutely new environment did not carry me to a point that I could even contemplate the achievements of this first year of war.

The history of medicine holds no parallel to the voluntary mobilization of the medical forces of the United States of America and we now realize that the great post-graduate medical machine is just beginning to move smoothly.

Volumes have been written of the efficiency and economy of the Liberty motor. Journalists enthuse over this product of a congress of the world's greatest mechanical engineers; but little has been said of the quiet, modest, gentlemanly soldier who, having converted the Panama into a park, has now contrived the great "medical motor" of the United States Army.

Under the wise guidance of the Surgeon General and his able aids, the gallant men of the profession have unflinchingly thrown personal ambitions to the winds, abandoned the plans of a lifetime, foregone the completion of achievements contemplated for years, and are sharing the dangers and privations of the brave defenders of the flag of their fathers and their posterity.

The available resources of the world are now being divided between two hostile armies. There can be no doubt that among the most important of these are the medical resources. There has never been a time in the history of the world when camp sanitation contributed so successfully to the conservation of troops. The old ratio of 20 casualties from disease to 1 from gunfire, is a thing of the past. How important then that the authority of the medical officer be commensurate with his responsibility in the management of troops.

Here, as elsewhere, we depend upon the wis-

*Delivered at the 68th annual meeting of the Illinois State Medical Society at Springfield, May 21, 1918.

2,444,131

dom and diplomacy of the Surgeon General to secure for himself and his subordinates a freer hand to serve humanity—more power to his arm. How loyally then should every medical man support him. How rapidly and with what energy and cheer should we respond to his call for 300 more medical men from Illinois. It is the policy of the Surgeon General to maintain an enlistment percentage of 15 per cent. of medical men and to discourage the enlistment of more than 30 per cent. in any given locality.

The reasons for this are too apparent to admit of discussion, and that community which has not contributed 15 per cent. of its medical men to the service is not justified in a feeling of pride; while more than 30 per cent of enlistments is unnecessary, and obviously unjust to both the profession and the laity.

You may recall that one source of concern last year was the inroad made upon the student body by the exigencies of the present situation.

So wisely has this been administered by the advice of the Surgeon General, that ranks have been fairly well maintained, and the situation has not been taken advantage of by those wishing to study medicine only to evade military service. Nor has the government failed to impress our medical institutions with the fact that they are expected to educate doctors rapidly and well, thus adding to our medical resources.

The medical ranks of both England and France have been pitifully depleted in the past four years. Neither has taken the precaution to recruit them. There have been comparatively no medical graduates in either country, during this time, and to avoid exhaustion of this indispensable resource, the circumstances demand that we avoid such a course of national folly.

This is the Centennial year of our great state, rich in treasure, superb in commercial activity, and inexhaustible in resources. We rejoice this year, as never before, in her brilliant achievements; ever remembering her illustrious sons of blessed memory. But Illinois owes to humanity still more. With the dawn of our second century we should call out with clarion voice to the medical men of this state to consolidate all of our medical resources into one great university.

Some of the gentlemen will not fail to remember, I hope, that in an address before the

Chicago Medical Society, two years ago, I expressed the belief that Chicago was rapidly becoming the medical center of the world. Owing to the wastage of man power in Europe, at that time, the medical center of the world, would ultimately be in the United States and since it was to be on this side of the Atlantic, why not in Illinois?

That this is happening there is in my mind at this time no doubt. Within the borders of this great state, over the destiny of which presides one of the world's greatest executives, flourish great medical universities.

Our Governor understands the ambitions and ideals of medical men and when the interests of humanity are concerned, he rings true. All proper assistance is available, I believe, and if we can make of these universities, allies-allied universities under one commander-in-chief—there will spring up in the city of Chicago, as if by legerdemain, the medical center of the world.

Allegiance to our allies demands that we who are farther removed from the activities of war, see to the preliminary education of an adequate number of men, whose course may be finished with mutual profit in the gigantic post-graduate school in France.

We, as physicians, cannot escape a certain responsibility for the conduct of the affairs of the allied branches. To the medical men of this country belongs much of the credit for the splendid equipment of the recognized registered nurse; and while there were many who believed a two-year course an adequate training, the three-year system has given almost universal satisfaction. In the humble judgment of your reader, however, a three-year course at a time when the world is crying for nurses is unnecessary.

Give your nurses two years training, graduate them and let them register. This will meet every requirement for routine duty under the direction of a physician and permit them to enter their chosen profession at once.

For the girl more ambitious, the girl wishing to enter institutional work as a surgical assistant, all must agree upon a longer training.

For such a girl, as well as those already having completed a three-year course, there should be prepared an adequate course of instruction in massage. Young women so trained would meet every need in this recently clarified field.

The advantages of this arrangement are apparent, as a vast number of enthusiastic, well trained, and thoroughly useful women now approaching the close of their second year's training, would be immediately available for service, thus releasing many more highly trained women for special duty.

I think I make my position clear. An accredited and adequate post-graduate course in massage would standardize the education of the masseur by whatever name now identified.

The post-graduate course in obstetrics would not only solve the midwife question, but end for all time the vexatious question of her preliminary education.

The intensive training of the surgical assistant admits of no discussion.

Much has been done for the profession in this state in the past two years. The most constructive legislation in twenty years was enacted last year after one of the most stubborn legislative contests ever staged in this historic city.

Undoubtedly the administration of the last Medical Practice Act will be attended by numerous difficulties. These will be explained to you on tomorrow afternoon by Dr. Shepardson, the Director of Education and Registration, who has consented to appear before you for that purpose.

Those of you who remember the old chaotic and belligerent days will appreciate the opportunity which we now have to complete the constructive work which has been done along legislative lines.

Thus strengthened and improved, the obligation of our medical organization to the state, is manifestly increased.

During the past year, the advantages to be derived by the state from a well organized profession have been more apparent than ever before. By the harmonious and untiring efforts of the various branches of organized medicine, and the zeal of their authorized publications, in conjunction with the Council of National Defense, thousands of civilian doctors have been inducted to the arduous but praiseworthy duty of selecting the most physically perfect army the world has ever seen. This task has necessarily been more difficult than it would, had these men had the advantage of training along military lines. In the *Journal A. M. A.* of May 4, Major Work, of the Provost Marshal-General's Office, wisely says: "There is a medical education to be had

through the examination of many registrants and close professional contact with other medical men, is of value quite independent of other considerations."

The individuality of her people is America's pride, and your American doctor is the most individualistic person on the earth. There can be no doubt that this has contributed to his success as a physician, but the characteristic is a theoretical impediment to military co-ordination. Nevertheless the profession is learning team work.

There are almost 5,000 local exemption boards in the U. S. and few can be found that are not within easy reach of an advisory board, and these are again expected to appeal to the most able in our profession, should circumstances require it. How happily then, are medical men adjusting themselves to an environment heretofore unknown to this generation. In the most orderly and good natured manner is our civilian profession striving to meet requirements for which they have not heretofore been trained.

Never before have we looked in vain for so many familiar faces. Stalwart men are missing. Men who have helped to bring success to this society, are now doing duty in a foreign land, or preparing therefor.

Upon them we depend to help decide our perplexing problems here. They are fighting our battles, and who dares desert them now? Seventeen hundred clear thinkers depend upon you to transact their business here, this week.

Just now the profession is being appealed to for data, to be used for actuarial purposes, in the scientific study of the various plans for compulsory health insurance. See to it that the questionnaire is answered and returned, thus doing your duty to your profession and every other group affected by such proposed legislation.

This war has shown us more clearly than ever before that the physician is not justified in an attitude of professional aloofness from legislative questions.

With Ciceronian eloquence will the political spell-binder point us to the achievements of a glorious past, and after adjuring us to view with equanimity things as they now exist, he will close by singing "A Perfect Day."

While we contemplate the achievements of this great State of Illinois during the past 100

years with satisfaction, every doctor knows that our highways are the worst in the United States, and every good lawyer knows that our laws are, in many cases, worse than our roads. The laws are incurable without the adoption of a new state constitution. The roads are incurable without a bond issue.

The flower of the land has gone forth to win this war, and it is the plain duty of the citizenship of Illinois to see to it that we have better roads and better laws, a better state constitution, a better citizenship and a better state, when they return, than when they marched away.

Why do our men rush into these European hecatombs today? To our own immortal Lincoln we owe the now imperishable aphorism, "This government cannot survive half slave and half free." It is so with the world today. It cannot longer survive half autocracy and half democracy.

Here will we find the time-old struggle between democracy and autocracy—liberty and bondage—the people and the king.

What is this democracy for which men willingly pour out their life blood? Why is autocracy more to be dreaded by a freeman than death? The world, says the highest authority on earth today—must be made safe for democracy. What form of democracy? Do we for one moment contemplate a literal democracy such as that to which half-baked socialistic propagandists led ruined Russia?

Is universal revolution to follow the smashing of Von Hindenburg, and the walloping of a paranoiac King? Can we fail to remember the sins of Sunny France in her darkest hour of revolution?

A thousand times no. Poor misguided France. Her crimes have cost her streams of blood, but the wrong she did Joan, she expiated long ago when her brilliant LaFayette officiated at the birth of Liberty upon American soil. What wonder the American soldier is an apt and appreciative pupil of the skilled French warrior?

How significant the circumstance that upon the gun-gashed plains of Picardy a brilliant young American surgeon should transfuse blood from an American soldier into an ex-sanguinated son of France.

Typical this, of the international relations of the struggling allies in a common sense. Well

may this be characterized Liberty's Last Stand. To save humanity from its own despotism, is a world old cause, but never in the history of the race have all the forces of chivalry been so beautifully coordinated as in the present crisis. Under the thundering guns of Pan Germania stand the stubborn courage of England, the chivalry of France, the intrepidity of Italy, and the valor of America, fighting side by side, in the support of plucky, splendid, heroic, little Belgium, pitiful Poland, and ruined Serbia, ever remembering those 30,000 Poles of military age who suffered themselves to be hanged rather than take up arms against the allies and their cause, against the United States and her cause, in which they recognize the cause of Liberty.

Down the ages has come the race of man fighting all the way for Liberty. Above the din of battle may be heard the shouts of the brave for Liberty. Mingled with the crash of conflict may be heard the prayer of many a dying boy, for Liberty.

In the banquet room at Potsdam, away from the din and danger, may be heard the jest of cruel and vindictive kings—"There is no Liberty."

The cradle of the human race was Asia, the cradle of civilization was the valley of the Nile, and the cradle of Liberty was Faneuil Hall. And now that her life is threatened by the most wicked king in the world, our own matchless Pershing presents himself before the tomb of the peerless Frenchman whom we have been taught to love, stands at attention, and reports: "LaFayette, we have come."

ORATION ON SURGERY

WM. O'NEILL SHERMAN, M. D.
PITTSBURGH, PENNA.

There has never been an occasion since the beginning of time that the medical profession has been called upon to render greater services to mankind. The one thought uppermost in our minds is the winning of the war with honor and with the least sacrifice of men and property, and to this purpose, we of the profession are united as never before. There has never been an occasion when the surgeon and our medical conferees have rendered such invaluable service to God and Country. The personnel of our armies represents literally the flower of the country. It is

our sacred duty to conserve and protect this army with every known scientific method at our command. A failure of the profession to rise up to and meet these exacting demands is certain to reflect discredit upon us in the future. The great voluntary enlistment and personal sacrifice made by our professional confreres in the service is sufficient evidence that we, as a profession, are going to do more than our duty. One must visit the battlefield of Europe and its invaded districts to realize the ferociousness and brutality of the enemy. If the so-called "Kultur" is to live and dominate the world, then let every man die in defense of liberty and his country rather than submit to the brute force of the Kaiser and his Prussianized subjects. We have been slow to realize the tremendous responsibility and difficulties of our task, not only to ourselves, but our gallant and noble Allies. The rapid awakening of the people is certain to be hastened by the large casualty lists which will soon be bulletined throughout the land. This awakening of the people, and a full realization of the task that confronts us, will unite all the people in one common cause—Victory with honor before peace. We must all be willing to make every personal sacrifice. Personalities do not and cannot be allowed to obstruct the prosecution of the war. The war must and will be won by the force *right* over the brute force *might*.

Time will not permit of even a brief resume of the invaluable services rendered by the great advance in preventive medicine and sanitary science. One must but recall the Spanish-American and Boer wars to fully realize what the prevention of typhoid and paratyphoid has meant to the conflicting armies. Had the same rates of disease to casualties existed in the present conflict as in the Spanish or Boer wars, the war would have ended long ago with a depopulation of Europe. Strict enforcement of quarantine, compulsory vaccination against typhoid, and constant sanitary supervision and precautions against disease have resulted in a general high state of health when the living conditions and environment of the soldiers are taken into consideration. We were hopelessly unable, however, much as we thought we knew about infection, to either abort infection or cure it when it once became established. Multiple incisions and drainage were the commonly accepted methods practiced. If the patient had sufficient resist-

ance, he conquered the infection; if not, he died. The great mortality, amputations, and complications resulting from infection stimulated Carrel and his co-workers, Dakin, Daufresne and Delhelly, in an endeavor to find some method that would abort wound infection if practiced in the early stages, and if once established, would cure the suppuration. After many trying experiments, and months of laborious work, Carrel presented a new method. The technique and results were presented to the Surgical Society of Paris in September, 1915. It immediately met with violent opposition from certain of the leading professors who were quite confident that the method was not new because they had used bleaching lime, Javel water and Labarraque's solution for many years. Carrel and his supporters have always maintained that the antiseptic principles of the method were not new, simply reverting to the principles of Lister, but held that the technique was new. His staunch supporters insisted that the objectors visit the Carrel hospital at Compiègne to study and ascertain at first hand the details of the technique and the results secured. Very few were sufficiently interested to make a personal investigation. They were self-contained and satisfied, and refused to acknowledge that any improvement had been made in the treatment of wounds.

During the following year, September, 1915, to September, 1916, but five hospitals had accepted and instituted the Carrel technique in France and Belgium. In these five hospitals, suppuration was under control or almost entirely absent, while in all the hospitals visited by the writer, suppuration was rampant. Death from sepsis, amputations, chronic sepsis, and vicious deformities, were to be found everywhere. An inquiry as to why the Carrel method was not used brought forth the common reply: "We have tried it and found that the results were no better than with former methods, and have discarded it." A close investigation readily revealed the fact that rarely was Dakin's solution used and little or nothing was known relative to the technique, which when understood, is extremely simple.

The so-called Dakin's solution was usually made by a chemist or pharmacist who had no definite idea of the solution, or the method of making it. The surgeon and his assistants and nurses had absolutely no knowledge as to how the

method should be applied, believing that their own ideas as to its uses were the only proper ones, and refused to consider any suggestion that the special technique was of any value. Professor Tuffier and Dr. Carrel stated in September, 1916, that two hundred thousand lives in the Allied armies had been lost from infection with forty to fifty thousand amputations. Tuffier is the consulting surgeon to the French armies and one of the leading spirits in the organization of the Surgical Inter-Allied Conference. His tremendous experience, together with that of DePage, certainly qualifies them to speak authoritatively on this subject. The chief reason why the work of Carrel was not more generally known and accepted, was due to the reluctance of the profession to accept new methods, the fact that knowledge does not spread rapidly in war time, and the absolute necessity of special training in technique if success is to be achieved. Carrel's work was gradually given recognition in France and the opposition became less active.

On the writer's return to England from France in October, 1916, little or nothing was known in England of this method of wound treatment. A conference with the Director General of the British Army and many of his chief officers and advisers, together with visits to many English hospitals and surgical instrument houses, revealed the undeniable fact that Carrel's work was unknown, and no equipment was available in England at that time to carry out the technique. The apparatus was readily manufactured, and in a short time the method was put into practice in many of the largest hospitals. Misunderstandings with reference to the exact method of making Dakin's solution, little or no conception of the technique, due to lack of training, resulted in an improved but not revolutionary results. As the attending surgeons and nursing organizations became more familiar with the method, the results began to improve.

The writer presented a paper on this subject before the Royal Society of Medicine, London, in October, 1916. The discussion in general was favorable to the paper, and all expressed the wish to give the new method a trial. The Duchess of Sutherland, who was present as the guest of Sir Arbuthnot Lane, at this meeting, stated she had recently visited Carrel's hospital at Compiegne and had witnessed his remarkable results, and

that while she was a lay woman, she had conducted a hospital in France since the beginning of the war, and that she had some knowledge of infection because every patient admitted to her hospital was infected. She despatched three officers to Compiegne to take a three weeks' course. The result of this training was that this was the only English hospital visited in a six months' tour by the U. S. Naval Surgeon in August, 1917, that was carrying out the method as practiced at Compiegne and LaPanne. Sir Arbuthnot Lane in a letter to the Duchess under date of August, 1917, states: "Of all the hospitals I have visited, I have seen none in which the treatment of the patient is carried on as scientifically and as efficiently as it is by your surgical and medical staff. They employ the method of treatment devised by Carrel in every detail in a manner which has commanded the unstinted approbation and admiration of that distinguished scientist."

Much confusion and misunderstanding has existed with reference to this method. The chief reason for this is that few have had an opportunity to study and personally carry out the technique in all its detail. Those who have condemned the method either have had no personal experience or are basing their opinions on hearsay evidence.

Let us analyze the reports of General Sir Anthony Boulby and General George Meakins, both enthusiastic supporters of the method. In reporting a series of infections of the knee joint, they state they have reduced their amputations from eight to one, and their deaths from four to one, since using the Carrel method. A perusal of the report of the commission appointed by the Director General of the British Army, which was sent to France to investigate this method, confirms practically every contention made by Carrel. One must not assume that we have some marvelous antiseptic solution which in the hands of the surgical embryo, will yield magical results. Those who are familiar with this subject have never maintained such an untenable position. The opponents have inferred this simply because of their inability or unwillingness to understand the technique. The most important factor in the entire method is the general surgical sterilization of the wound, which means general excision of all traumatized and devitalized

tissues. This is to be followed by chemical sterilization and suture under bacteriological control. Carrel was the first to practice general excision of the tissues. Unfortunately, the chemical sterilization has been generally thought to be the greatest factor. Both are absolutely necessary if good results are to be secured. The Inter-Allied Conference has repeatedly recommended the chemical and mechanical sterilization of all wounds.

During the past eighteen months a modification of Carrel's technique has been practiced—that is immediate suture after mechanical sterilization of the wound, or delayed secondary suture. This method in the best hands has given 75 to 80 per cent. successful results, but can only be practiced in times of inactivity as the wounds must be kept at rest under observation at the casualty clearing stations or evacuation hospitals for a least seven to ten days. This is clearly impossible and impractical in times of military activity, the results being that most wounds during a big offensive are infected. It is quite impossible during a retreat and big offensive like the one recently passed through, to carry out any organized surgical technique which is in any way complicated. Only the simplest dressings can be applied, after the patient is evacuated to the Base hospital in the rear, the more refined and complicated methods can be applied.

The epidemic of pneumonia in the cantonments and in civil life has had exceedingly high mortality. Many of these cases have been complicated by empyema. The mortality of empyema in some of the cantonments has ranged from 40 to 75 per cent. following operation. It has been known for three years that resection of rib or thoracotomy with instillation of Dakin's solution would rapidly clear up the infection in the pleural cavity. Notwithstanding this, many of our surgeons have clung to the old methods of drainage, with a resulting high mortality. Those of us who have used Dakin's solution, either with the Carrel tube or in conjunction with the Brewer's drainage tube, have had some really striking results. In many of our cases, free pus disappeared within 24 to 30 hours after the pleural cavity was filled with the solution, sterilization being complete in two or three weeks allowing the wound to be sutured with primary union. There was no sign of irritation or toxemia present. Major McHenry, M. O. R. C., stated that he has re-

duced the mortality from 37 per cent. in empyema complicating pneumonia, to 6 per cent. by delaying operation until the patient was in condition to withstand it and by using Brewer's suction tube combined with a Carrel tube and Dakin's solution. The writer had the pleasure of seeing thirty-nine cases treated by Major McHenry at Camp Taylor, and with few exceptions all were doing well. Dr. George Loewy of the Rockefeller Institute, writes as follows relative to the treatment of empyema:

We have treated in our hospital here, 39 cases of empyema following pneumonia. Of these, 25 have been of the streptococcus variety, the other cases having been of the pneumococcus type. Our operation of choice has been rib resection. At the time of operation, the lung cavity was washed with Dakin's solution, full strength, and three to five Carrel tubes inserted. These tubes are kept just a trifle more rigid by means of silver wire (flexible). Instillations with Dakin's solution were made every two hours, from 50 to 100 c.c.; in some cases every hour. Sterilization of the pleural cavity was brought about in from five days to two weeks in most of the cases. We have believed in operating early here, and have operated always as soon as the fluid appeared in the chest and contained organisms. In closing our cases we allowed some to close spontaneously; in other cases, we did a secondary closure at the end of 5 days sometimes, and from 8 to 14 days in other cases. The longest we have kept any patient in the hospital has been 80 days and that was due to complications. We have had no chronic sinuses. All of our cases have been able on leaving the hospital to return to duty. We have had 12 deaths, 8 of them being streptococcic empyemas. This would seem to be a somewhat high mortality, but our results in being able to return our cases to active duty and the general comfort of the patients during the treatment must be considered as a great stride.

The paraffin wax or Ambrine method of treating burns—method Barthe de Sandfordt—is generally recognized as the method of choice in the treatment of burns by all those who have had an opportunity to observe the results. It is to be regretted that for 16 years this treatment was available but because of theories and prejudice the profession refused to give it a fair trial. It was not until the present war that the real merit of this treatment was acknowledged and given an exhaustive trial. The unquestionable superiority of the method over all other methods has made it the method of choice in the English and French armies and navies. The Surgeon General of the U. S. army has accepted the method as a valuable one and has arranged for full sup-

plies of parafin wax and other equipment necessary to carry out the technique. Most of the failures can be attributed to error of judgment and imperfect technique, due to misconceptions of the underlying principles of the method. The wax method has undoubtedly reduced the mortality, lessened the convalescence from 30 to 50 per cent. eliminated most of the pain, and reduced contracting cicatrices 95 per cent. In 4,500 cases treated on the writer's service during the last 18 months, there have been but 2 complications, i. e., thrombosis of the femoral vein and one cicatrix which interfered with function. Operations restored excellent function in both.

The improved results with this method are so startling as to be difficult of belief. The method is violently opposed to what has heretofore been thought to be basic surgical principles, and while the theory and practice are diametrically opposite, the results achieved prove beyond question that we have held too tightly to theories at the expense of practice. It is generally admitted that all burns at some time or other during their course become infected. While the infection is usually of a saphrophytic character and of a low grade, it is, nevertheless, present. Sealing such a wound with wax does not in any way interfere with the rapid healing of the wound. Let us sincerely hope that those who have assailed this method will give it a fair trial before condemning the method without having had any personal experience.

The conflicting opinions that have been expressed from certain sources have caused much misunderstanding and confusion throughout the profession. The rank and file of the profession look to their leaders for guidance and direction when new scientific questions arise. How frequently do we hear that Dr. "Wise" or Prof. "Blank" has expressed a contrary opinion, when upon investigation we find that they have had little clinical experience and are basing their opinions on past theories from which they are unable to dissociate themselves. These false leaders have always opposed new scientific methods, if it differed with their former theories. Lister and Pasteur were censured and ridiculed when they dared differ with certain leaders of thought in their day, and as a result, years elapsed before the profession generally accepted their life saving discoveries. This psychological state of the medical mind exists today to a limited ex-

tent, so that new and progressive ideas are slowly accepted. Much of the liberty of the profession has been license. 'It would be well for the profession to endeavor to correct whatever ills exist within the profession rather than have interference from the outside. Constructive criticism is always to be welcomed and is to be earnestly desired, while destructive criticism is unnecessary and harmful.

The Surgeon General has recognized the necessity of intensive training in military surgery and medicine, and has inaugurated schools of instruction in the cantonments, certain hospitals and teaching institutions. This policy has undoubtedly been very beneficial to the M. O. R. C. in that it brings to them the latest and most practical methods. The standardization of splints will be certain to lessen confusion and simplify the use of splints. Much progress has been made by the ingenious use of the Jones-Thomas-Blake-Delbe and aeroplane splint of Leyva, so that this problem has been quite satisfactorily solved. Blood transfusion either by the citrate method or Kimpton-Brown method has in many cases, been a life-saving procedure.

Let us hope that something approaching a specific, rather than the expectant method of treating shock, will soon be forthcoming. This is one field of surgery which remains unsolved. Every assistance and encouragement should be given to researches in medicine and surgery. This work can best be done by those qualified to do so rather than the entire rank and file of the profession.

The American College of Surgeons is making a campaign in an endeavor to standardize hospitals. This is a great movement in the right direction and has great possibilities for a general improvement in hospital conditions, and should receive the heartiest support of the profession. One of the striking features of the French, English and American Medical Army organizations is their failure to recognize the necessity of establishing an elastic standardization of medical and surgical practices. While on a tour of inspection of the French and English Base hospitals, we were constantly confronted with the frequent changes of wound treatments, with no effort at uniformity of practice. One of the chief reasons for this general chaotic condition was due to the fact that the profession was unaware that any-

thing approaching a specific had been discovered and of the general belief that all treatments were of equal value.

Recognizing the great necessity of accepting a reasonable standardization, the writer addressed a letter to the Surgeons General of the Army, Navy and Public Health Service, and Chairman of the Council of National Defense (Medical), urging that if it was necessary, certain practices should be made compulsory in order to have their general adoption. Generals Gorgas and Braisted replied by stating that the methods and practices referred to were being accepted in the Army and Navy, but doubted the necessity of issuing instructions making their use compulsory or obligatory. General Blue replied as follows:

I have carefully read your letter of April 16, relative to standardizing surgical technique and practice and believe as you do that an attempt should be made to bring this about so far as patients under the care of the Government are concerned. At the American First Aid Conference held in August, 1915, Dr. Bloodgood spoke on this subject and emphasized the necessity of ascertaining the best method of treating fractures and wounds and other injuries so that the injured might not be subject to the many forms of treatment, and only that form employed which has been found to be most satisfactory and to give the best results.

The British wounded during the early part of the war were treated according to the special knowledge or ideas of each surgeon into whose hands they happened to come, with the result that many lives were sacrificed by the use of methods that were not the best, and as no one knew at that time which was the most satisfactory treatment it was not possible to advise surgeons at the front what special treatment should be employed. As the war progressed, it was ascertained that certain methods were more efficacious than others and the medical officers in the field were advised to treat patients in accordance with the lines which were found to be the best. A great deal of time and trouble and many lives could have been saved if a Board had been formed for standardizing surgical treatment and medical officers had been required to use the methods which were approved by this Board.

I believe it is even more important to standardize surgical technique and practice than first aid or hospital construction and equipment. I do not know whether it would be possible to do this in this country but possibly authority could be obtained from Congress for the formation of such a Board composed of officers of the Army, Navy, Public Health Service, and civilians. This Board could thoroughly investigate all the forms of surgical treatment, decide which is the best, and if authority is granted by Congress, the Surgeons General of the Army, Navy, and Public

Health Service could require all officers of the military forces to use the methods adopted by the Board. It might also be possible to send officers to special hospitals to be trained in certain new methods and upon their return to their home stations they could be instructed to educate civilians in the use of the new methods. I think this is a good time to bring this matter before Congress and will render all assistance in my power in preparing a bill and having it enacted into law.

We will have to admit that we have but few specifics in medicine. They can be counted on the fingers of one hand. What excuse has the doctor who allows his patient to die from lues because of the unbelief in 606 and mercury; to die from malaria because he does not believe in the use of quinine; to die from diphtheria because he is an unbeliever in antitoxin; to die from tetanus because it is against his theories and technique? Such gross negligence should be treated by society as criminal negligence.

It is the practice in the Army to vaccinate every soldier against typhoid fever and small-pox; in fact, it is obligatory. Those exposing themselves to venereal infection must take prophylactic treatment. Their failure to do this is liable to court martial or suspension without pay if venereal disease is contracted. Every wounded soldier must be given an antitetanic injection. If the above practices are made obligatory, why should the wounded be allowed to die from wound infection and its complications when a cure has been discovered? Is it because our leaders think such action would retard scientific advance? Should every doctor be allowed to experiment with every known obsolete method until he became convinced of the particular value of a certain method before he finally accepts it? When the lives and future happiness of thousands are at stake, every effort should be used to have the most modern and generally accepted methods universally practiced. Professor Tuffier has a notice posted in conspicuous places in his surgical wards saying: "Any of the wounded who has suppuration in his wounds has a perfect right to ascertain from the surgeon why his wounds are suppurating." A similar notice placed in every military and civil hospital would cause much embarrassment, but would compel the attending surgeons to accept and put into practice methods which will suppress suppuration.

Let us keep open minds and accept improved methods until such a time as a still greater ad-

vance is discovered. We should put aside all personal issues. We have a great, a sacred duty to perform. Had it been possible for the medical directors to enforce a reasonable standardization of medical practice, many lives, amputations, and cripples could have been spared. Let us hope we shall not be found wanting in the last analysis.

WORK OF THE GRIEVANCE COMMITTEE.*

FRED L. GLENN, M. D.,
CHICAGO.

For some time there has been a growing conviction and a belief that there was an enormous benefit that could be obtained for members of the medical profession by having a grievance committee.

The wish being the father to the deed the Council of the Chicago Medical Society brought into existence such a committee.

That a grievance committee is needed and has a field of usefulness is proven by the marked favor with which it has been received by the members, the press, the officers of the board of Registration and Education of our State and by the numerous grievances that have come to us for investigation.

A detailed consideration of the subject of grievance of the medical profession would be interesting, and in my opinion quite profitable. However, as my time is limited and our work is only in its infancy I will be content to take up some of the more important grievances that should properly come within the province of such a committee.

With the united medical profession back of such a committee, the possibilities and benefits to be derived from their work are considered enormous.

In blazing the trail I feel keenly the responsibility that has been placed upon me as chairman of the first grievance committee of the Chicago Medical Society, being backed up by a membership of over three thousand members.

That there is a need for a physicians' grievance committee no one questions. Doctors as well as others have grievances which can only be relieved by a united and systematic effort. Physicians

for years have sat idly by, helpless as a new born babe and seen the unscrupulous fellow gull and defraud the people, and rob them of their money, many times the savings of a life time, on the strength of a guarantee to cure the incurable, or the relief of some greatly magnified or even imaginary ailment, and leave behind them an impression in the minds of the duped that all physicians are fakers.

We read in some of the daily papers and in circulars of the extravagant claims of some wonderful cures, of some new drug or new and wonderful method of treatment known only to him and of guarantees to cure every disease from the crown of the head to the soles of the feet.

We see a picture of some prominent congressman or senator who is a constant user and a permanently cured patient from an ailment when all others have failed.

How small and insignificant do we feel when we consider what the public must think of doctors in general after reading such bunk.

We see people by the hundreds flocking to these advertisers and paying them in advance a fee ten times as large as they give an honest scientific physician.

Other professions and trades have long ago worked out a remedy for their grievances. The grievance committee of the bar association has the profound respect of its members and the fear of its disfavor I am told keeps many an attorney from departing from the paths of rectitude, honesty and professional uprightness.

The grievance committee should be the focusing point upon which the entire membership can be brought to bear upon a given object and produce results for good.

A false idea has prevailed among physicians that their calling is so different from all others, that it is so high, so dignified, that to mention business or to discuss anything other than scientific medicine would be a disgrace.

While we are holding the empty bag the less scrupulous fellow runs away with the game.

Of the various grievances that have come before our committee, that of the quack predominates. In looking over the quack game I have been trying to find the secret of their business success. I have come to the conclusion that it is dependent upon:

*Read before the Secretaries' Conference at Springfield, May 21, 1918.

1. Fabulous statements as to what has been done.

2. Grossly exaggerated condition of the patient.

3. Secret drugs or secret method, known only to themselves.

4. The clincher or money getter is in the promise or guarantee to cure.

If the above tactics were used by the grocer, the coal dealer, or the banker, one would soon see what would happen to their business.

Every quack is dependent for his success upon fraud and it is one of the duties of the State to protect the public against any kind of fraud.

The law is plain. His license can be revoked if he has by false or fraudulent representation obtained or sought to obtain practice in his profession or if he has by false or fraudulent representation of his profession obtained or sought to obtain money or any other thing of value.

The old familiar proverb "When doctors disagree who shall decide" is not applicable to the quack question. The entire membership of our County Societies are a unit on the question of cleaning up all medical frauds that prey upon the public and trail in the dust and tramp into the mud the glory, the wonderful achievements and the reputations of a profession into whose hands the people will trust their health, their secrets and their lives.

There is a reason why the profession of the physician is especially sacred, a reason that does not apply to the druggist, dentist, quacks and sub-standard healers.

Our grievances can be divided into two classes. Those within and those without our profession. We can again subdivide the grievances within our profession into two classes.

1. Those against our own members who are not living by the golden rule.

2. Physicians outside of our County Societies who have been refused membership or know admission would be impossible.

It is with this class that there are the most complaints. They have hitherto not been restricted as to the limit of what they could promise and were only limited as to what they could get out of a sucker by the amount that he was able to dig up. The members of our Societies are on the firing line and it is their duty to report a faker whenever and wherever found. This

is absolutely necessary if the State authorities are able to make even a dent in the quack situation; it is so extensive and well established.

Like weeds, if left alone they will grow to enormous size and sap up all the life sustaining substance and leave little for the modest practitioner.

All states attempt to regulate the practice of medicine and in so doing they owe it to the people to see that no one is permitted to care for the sick and infirm without a thorough investigation as to their fitness.

It is also the duty of the State to set a standard and only one standard for the entrance to the practice of medicine and further, no one should be permitted to continue in the practice of same, when they make use of fraudulent and deceitful methods.

The public has a right to demand of the State that it suppress medical fraud and robbery, the same as any other fraud and robbery.

Much credit is due the *Chicago Tribune* for its publicity and for the education of the public along the line of quacks, and public sentiment has compelled all the best English papers of Chicago to quit the printing of fake medical ads and the quacks have resorted to the foreign papers to assist them in their crooked methods of trimming the public and the ignorant foreigner is the victim.

It is a well known fact that when a foreigner comes to the United States to make a living and a home for his family, that he is filled with the high ideals as to the American standard for honesty and fair dealing. He is anxious to learn and to be a part of such a government. He believes what he is told and what he reads, and more especially so when it is printed in his own language, by some one of his own nationality and delivered to his home by the government whom he trusts. In his childlike simplicity he believes everything printed in the papers is true. He does not understand that an advertisement is written and paid for by the advertiser himself—and placed there to catch suckers. But on the other hand he thinks that the paper is praising those physicians because they are good.

Why should there be a prolongation in the minds of the foreigner of those principles and ideas from which he has fled?

He is looking for better things and expected

to find them under the stars and stripes. Can anyone enjoying the liberties and benefits of a free country give one reason for the publication of any newspaper in any other than the English language?

Now is the time to be all American. At the last session of the State legislature a big stick was put into the hands of a non-medical board giving them power to revoke license of any physician for false or fraudulent representation.

They are willing to wield the big stick when there is evidence of fraud and ask for the cooperation of the medical profession in pointing out suspicious cases.

Fellow members, this is our chance and the long looked for opportunity. It is the work of the grievance committee to take up this matter in the interest of our patients and the public; collect sufficient information and turn it over to proper State authorities for prosecution. They, and not you, will assume all risk and responsibility and the prosecution of fakers.

Francis W. Shepherdson, director of the Board of Education and Registration, offers the following as a big step forward in the regulation of the quack situation and I truly believe that a dollar thus spent would yield an hundred fold.

He says:

Another observation I wish to make is one of surprise at finding no provision in the Illinois Medical Practice Act for an annual renewal fee for medical licentiates. In other professions and occupations a fee of this type is much approved. Once a year, at least, the registered pharmacist, the architect or the barber reports his whereabouts and pays his renewal fee. The physician receives his license and is turned loose. If he joins a local or regional or state medical society, his habitat and habits may be known. But if he becomes a quack or faker or a caterer to degenerates, no one follows him up, except as he is arrested by some defrauded patron or falls into the clutches of the law for abortion or for selling narcotics. An annual renewal fee would mean a closer supervision. It would afford opportunity for withholding a license, if charges of unworthiness were proved. Incidentally, although this is a minor consideration, the revenue thus obtained would enable the state to be more aggressive in its attitude toward those who persistently violate the law and continually disgrace the great profession of medicine. As I have watched the workings of the laws regulating other occupations and have noted the great advantages of the annual license renewal features, I have wondered much why the friends of medicine in Illinois did not long ago make this a feature of the medical practice acts.

The third classification consists of various

groups outside of the medical profession, who, having decided that they wanted to be classed as doctors and still not be compelled to comply with the standard requirements for the practice of medicine, proceed in great numbers and in a systematic way to influence the state law makers to grant them a special privilege at one-fourth to one-half the requirements exacted of the physician. When secured, up goes their shingle, backed by the State of Illinois, which permits them to be called doctors and they endeavor to influence the public into believing that they are equal or superior to the M. D.s who have complied with the standard requirements of the law. Can any one see a square deal in this counterfeit healer proposition? During 1917 bills extending special privileges to Medical cults were defeated in the Legislature of Indiana, Iowa, Missouri, Ohio, South Dakota, Texas, Utah and Washington. Not so in Illinois.

We need more publicity and education along medical lines. Physicians and County Societies should unite to fight all legislation for substandard healers and special privileges. There is no justice in setting a high standard of requirements for a medical profession and then proceed to let down the requirements to a lot of substandard healers to go forth to practice upon the weakness of the people.

Opticians who have a limited license to do certain things, sometimes take a fly at other things than that for which they are licensed.

There is still another class of physicians who have complied with all the requirements of the State to practice medicine, who enter into the unlawful practice of producing abortions for a fee far in excess of regular treatments. This gives to our profession, with its high ideals, a bad name in the minds of the general public. It is far from being a dignified, honorable profession when the public gain the impression that for a fee we can be induced to take life.

There is still another kind of practitioner who never attended medical school, who never passed a State board for a standard or even a substandard medical license, who never was inside of a hospital, and yet stands behind a counter and diagnoses, prescribes, recommends, compounds and sells remedies for many kinds of

ailments. He does the very thing for which we are compelled to pass a rigid examination.

Did you ever stop to think of the kind of medical healers that the United States Government employs for its own use? What are the qualifications that it exacts? Does it accept any physician just because he has an M. D. attached to his name? No. He must come from a standard medical school. Does the Government accept a physician who claims secret remedies, secret methods and claims cures when all others fail. No. His remedies are not secret and his methods are open to all.

Does the Government accept men claiming to be doctors, who entered the healing game by a short and questionable route and are permitted by the State Laws to tinker with public health by replacing every two or three days a dislocated vertebra of the spinal column? No. They must go all the way and qualify in all the branches of medicine and surgery.

Does the Government accept as its physicians persons who, knowing nothing of anatomy, physiology, or diseases go forth to the battlefield to extract bullets and shrapnel from the bodies of our wounded soldiers by prayer? No. Why then in the name of all that is good does the public, the common people, have to be afflicted with the quacks, cults, isms and religious healers that flood our cities and country?

Why is it that State Legislatures will pass laws making high and fixed educational requirements as a prerequisite to an examination for a license to practice the healing art and then immediately pass a law granting uneducated persons the same rights and privileges under cult names?

A state should be in a position to select and adopt the best, compelling all to conform to the standard. The United States Government has set the example for quality and efficiency in its selection of medical men. If we expect to "can" the quack it is absolutely necessary that we have the full co-operation of the rank and file of our Society membership, working through the grievance committee and we have the promise of the Director of Education and Registration of the State that his efforts will not be a disappointment to us.

Let us lose no opportunity to explain to our families and to the public what the medical pro-

fession—not our individual selves—is accomplishing.

We should explain to the individual legislators with whom we are acquainted the high ideals for which we stand.

In conclusion I wish to offer the following points that will in a measure end some of the grievances of the medical profession.

1. Educate the public as to the aims and accomplishments of the medical profession.

2. See that legislatures do not pass unfair laws.

3. Co-operate with your Grievance Committee in the exposure of medical quacks.

4. Give publicity to the successful prosecutions of medical frauds. It will have a wholesome effect.

5. Demand an annual registration of physicians.

6. Abolish all alien enemy publications. America for Americans.

DISCUSSION

Dr. Humiston (Chicago): As to how legislatures come to license Christian Scientists, chiropractors and what not, is a big question, but a grievance committee certainly has work enough if it will limit its activities to having these cults and our own members comply with the laws which we now have. The laws are adequate if they be enforced.

The medical profession is to blame to a great extent for the quack in the vicinity where we live. Every town has its oldest inhabitant and every town has its shady practitioners, if not an out-and-out quack. How many doctors will take issue with a man's methods that he knows are dishonest and disreputable and inclined toward fraud in every way? He would like someone else in some other town to bring an action or to say something rather than to do it himself. Until we arrive at the point where we are willing to say that a scoundrel is one, and try to put him out of business, we shall not have got to the point where we have done what we ought to do. If there is a dishonest man in your society, get him out. If there is a man pretending to practice medicine in your town and you know that he is doing things that are illegitimate, see that his license is taken away from him. Make the most of the publicity that can be had in connection with that case. It is impossible, in enforcing a law, to make it so comprehensive as to catch every rascal at once. In Chicago, as in many cities, there are ordinances against spitting upon the sidewalk. But instead of arresting the entire population of the town in one day, those charged with the carrying out of the provisions of that act arrest so many more or less continuously, and make an example of the few. It isn't necessary to prosecute every quack. It is advisable and sufficient to make a good example

of some one conspicuous violator in that community.

Now, the legal profession is ahead of us. Their grievance committee, while not clothed with the power to punish its members, can recommend to the state authorities and the state authorities listen. I think it would be splendid if we could devote some funds to running down a crook in the medical profession, furnish the necessary evidence in a specific instance which is flagrant and have that man brought into court, or whatever is thought best in the particular case, and get rid of him—make an example.

If we begin at home, all the better, but if we can't begin at home, let us go over into our neighbor's town and help him who is too modest to clean the rascal out who is pestering the life out of him.

I believe that a grievance committee properly conducted will serve a very useful purpose in our county medical societies, and every county should have one, should have an active one, and if we only got one quack a year it would do a great deal of good.

Dr. Glenn: I don't know that there is very much more to be said, but even if the question is chronic, it seems as if it would be wise to keep right after it just the same. At the last session of the legislature a very stringent law was passed on the way that quacks can be handled. It gives us power that we did not have before, that of revoking a physician's license. I understand that before this they could not for any except very serious cause revoke a man's license; but now the director of the board of registration has the power to revoke a license right off if there is evidence that there is any fraud either in the building up of the business or in the collection of money or in defrauding people. If he simply has the evidence or we will tell him where he can get it, I understand that he has a corps of investigators for that purpose in the state. They are not as adequate as they should be, but they are willing to do what they can.

All I have to add is that the quacks are sinking our ships of high ideals by their submarines, and that we are forced to fight the same as the United States has been forced to fight.

ROENTGEN EXAMINATION OF KIDNEY TUMORS.

PAUL EISEN, M. D.
North Chicago Hospital,
CHICAGO.

In former times the clinician experienced considerable difficulty in diagnosing tumors of the kidney. It was in many instances difficult to tell whether the tumor was that of the kidney or originated in some other organ in that vicinity. The x-ray has added a most valuable diagnostic agent.

In examining patients who have a tumor or enlargement of the kidney the roentgenologist has at his disposal three different ways of applying the x-rays to aid in the diagnosis:

1. Direct examination of the tumor by means

of roentgenograms which may show the tumor outline and foreign substances contained therein.

2. Visualization of the renal pelvis by means of injection into the same of substances giving opaque shadows and noting the changes in the configuration of the pelvis of the kidney due to the tumor.

3. By introducing shadow producing substances into the gastro-intestinal canal, to bring out the displacement of these organs by the tumor.

The third method should be controlled by fluoroscopic examination, in the other two the latter has proven unreliable. The roentgenogram should in all three instances be made stereoscopic, because in the first case the location of the foreign substances may be correctly estimated; in the



Fig. 1. Stone in right kidney tumor, with catheters in both ureters.

second place, the changes in the renal pelvis due to the tumor may be better interpreted; and thirdly, the relation between the intestines and the mass can be brought out more distinctly than fluoroscopically. To complete the roentgen examination, the renal pelvis of the removed tumor should also be injected and the stereograms studied.

One should never fail to produce a roentgenogram of a tumor before injecting any foreign substance either into the pelvis of the kidney or into the intestinal tract, because the shadows produced by these substances may overlap other less distinct shadows due to disease of the kidney. In doing so we will detect stones in pyonephrotic sacs (Fig. 1), calcareous deposits in tuberculous



Fig. 2. Pyonephrotic sac, injected (the lower portion not completely visible) and the removed pyonephrotic sac.



Fig. 3. Pyelogram, injection roentgenogram and photo of a case of hydronephrosis.



Fig. 4. Roentgenogram of displaced transverse colon and hepatic flexure by a polycystic kidney tumor of the right side, the injected roentgenogram and the photo of the tumor.

areas of the kidney substance, and calcareous glands. It is true that all kidney tumors that have come under our observation have been palpable, but the upper kidney pole was only discernible in the roentgen plate. Also the size and shape of the kidney tumor may be shown on the plate, whereas movability, consistency and fluctuation in the tumor are palpated during the fluoroscopic examination. Fluoroscopy alone has proven unreliable to us in detecting stones or other incidental foreign substances in the kidney.

The second method, that of injecting the pelvis of the kidney with a visible substance, is carried out after placing a catheter, visible in a roentgenogram, in the ureter of the affected kidney. The visible catheter alone may suffice, in stereoscopic roentgenograms, in localizing stones in the pelvis, but their exact location in either a



Fig. 5. Roentgenogram, after the barium meal, of the colon and rectum, showing the displacement of the descending colon past the median line, marked by a coin placed on the navel.

calyx or the kidney substance can best be determined by injecting the ureter and kidney pelvis with a visible solution or suspension. Often it is impossible to insert a catheter or inject the solution, due to kinking of the ureter by the growth. In one such case (Fig. 2), where the tumor was a fluctuating pyonephrotic sac of enormous extension, this sac was opened through an external incision, the pus drained off and the sac injected with bismuth paste. Stereoroentgenograms of the same showed its configuration in all details

much better than would a pyelogram with a weak solution. Besides, the paste was evacuated as quickly as the necessity of the case demanded. In this case, fluoroscopy was invaluable in determining the extent of the sac before the plates were taken. In a similar way, pyonephrosis with stones and fistulas were demonstrated by injecting paste through the latter. Also, the relation of fistulas to psoas and perinephritic abscesses were visualized by this method and published by Dr. Emil G. Beck.¹ Of especial interest to roentgenologists are the injection plates of removed kidney tumors. Their pathological bearings are correctly brought out by this method (Fig. 3), and their comparison with the original pyelograms is most instructive.

The third and not less valuable method of examining kidney tumors is by visualizing the gastrointestinal tract either by meal or enema and noting, first its relationship to the tumor as far as displacement, fixation and extension of the growth are concerned, and besides, ruling out any gross pathological changes in the intestinal canal itself. The displacement of the bowels by a kidney tumor is that of any retroperitoneal tumor, at first forward (Fig. 4). Besides this, if the tumor is large enough, the bowel will be displaced downward and, in very large tumors, medianwards (Fig. 5), the stomach also upwards. Fluoroscopy alone is not sufficient, stereoscopic plates being absolutely essential to prove any of these contentions.

By combining the first with one or both of the other methods, valuable diagnostic contributions are obtained and additional information received as to the best method of procedure at operation. All the cases to be shown were operated upon by the transperitoneal method at the North Chicago Hospital, and the other kidney and abdomen generally explored.

OSTEOSARCOMA OF THE FEMUR WITH UNUSUAL ROENTGEN FINDINGS.*

MAX REICHMANN, M. D.,
Roentgenologist, Englewood Hospital,
CHICAGO.

Miss R. R., twenty-five years of age, was in July, 1917, hit by a golf ball in the region of her

¹Surgery, Gynecology and Obstetrics, May, 1916, pages 507-523.

*Read before the Englewood Branch, Chicago Medical Society, March 5, 1918.



Fig. 1-A. Lateral exposure. Note bone-like shadows opposite diaphysis of femur.



Fib. 1-B. Antero-posterior exposure.

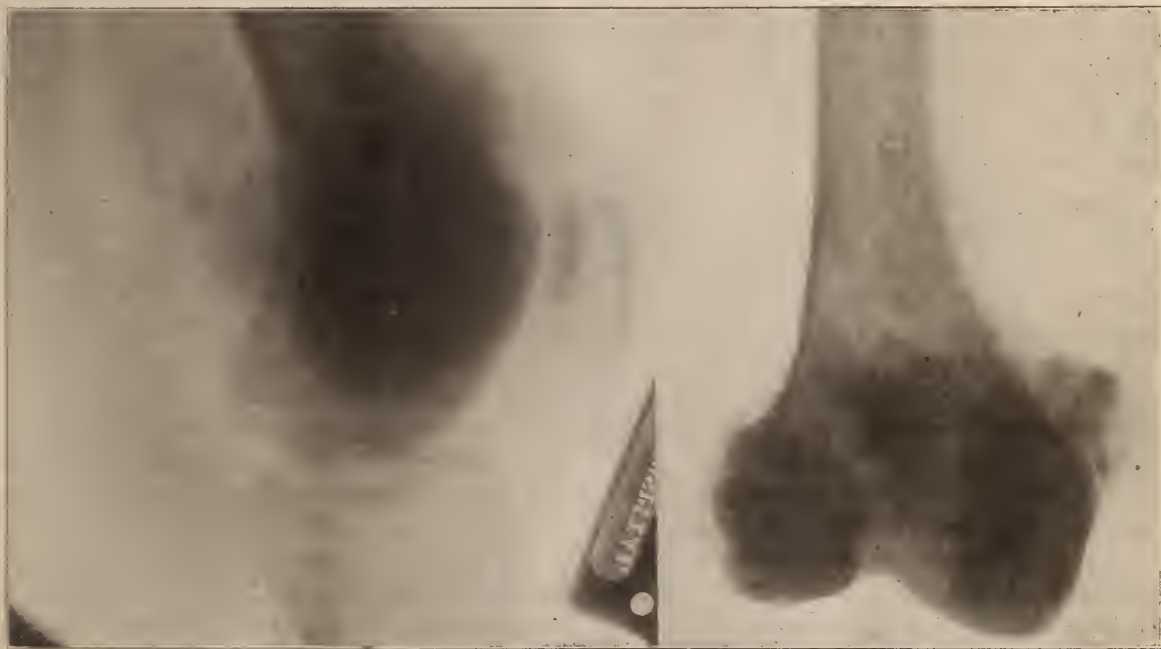


Fig. 2. Sarcomatous osteophytes in muscles surrounding sarcoma of femur.

Fig. 3. Roentgenogram of femur after amputation.

right knee; the exact location of the injury the patient is unable to designate.

In November of the same year, the patient noticed the appearance of a moderately large and tender swelling upon the inside aspect of the lower diaphysis of her femur and consulted Dr. Weir, who ordered a roentgenographic examination. Two plates at right angles to each other were made, and both showed on each side of the femur diaphysis, small spindleform bone-like shadows, which, however, did not seem to be directly connected with the bone itself. (Fig. 1 A and B.)

A consultant, who examined the patient and the plates made the diagnosis of periostitis.

When I saw the plates in December I could not make up my mind to accept this diagnosis because the shadows appeared in both views on both sides of the bone, indicating a bony ring around the part of the femur, which in itself spoke against the diagnosis "Periostitis."

I made another set of plates, upon which no difference of the condition could be noted and suggested a Wassermann test, as I was suspicious of a luetic condition. The test was negative and as the patient was suffering more and more, an operation was decided upon. In performing the same Dr. Weir found, in close proximity to the bone but not directly connected with the same, thick cartilage-like tissue formation, which upon microscopical examination proved to be sarcoma. The bone itself was not denuded of its periosteum, although the surface was not quite smooth.

After the operation the patient was subjected to a vigorous cross fire deep Roentgen treatment, but a month later when the patient appeared for another series of treatments I found the lower end of the femur surrounded by a hard mass and a roentgenogram immediately taken revealed the typical picture of a peripheral osteosarcoma with sarcomatous osteophytes disseminated in the surrounding muscles. (Fig. 2.)

The plate also shows the damage the tumor did to the corticalis; which condition, however, is much better shown in the roentgenogram of the bone after it was sawed apart, a high amputation having been performed. (Fig. 3.)

I consider this case as highly important, not only from a roentgenological, but also more from the surgical standpoint.

From the roentgenological standpoint are to

be noted the extreme difficulty of interpreting the shadows correctly, so as to give the surgeon the proper clew for his procedure.

In all the atlases at my command, I did not find a single reproduction of a roentgenogram of an osteosarcoma which resembles these plates. In his classical work on "Roentgen Pictures of the Diseases of the Bones," Rumpel states that spindleform osteophytes are quite characteristic for osteosarcoma, but in all the numerous pictures in his book, these osteophytes are closely connected with the bone, most of them subperiosteal. After finding, to our sorrow, that we had to deal with a rapidly growing osteosarcoma, I can offer only two theories, which could explain the findings in our first plates:

1. Patient had a chondroma, which through her injury became degenerated into a sarcoma, or

2. The trauma caused the development of a myosarcoma in the soft parts of the knee which through the operative traumatism propagated and in a short time caused the tremendous destruction of the bone.

It is plausible that my second theory may cover the cause for this unfortunate case, and then the roentgenologist has to bear the whole blame, because unfortunately he was not able to interpret the plates correctly.

STRICTURES OF THE URETHRA

C. H. SOLOMON, M. D.

CHICAGO

The subject of strictures of the urethra has always been of interest to me on account of their frequency and diversity of the methods of treatment.

Their importance not alone lies in their frequency, but also in the persistence of the symptoms which they produce and the pathological and serious condition toward which they predispose.

In females, strictures of the urethra are relatively infrequent and I shall therefore confine myself to those found in the male urethra.

Strictures of the urethra can be conveniently divided into those which are congenital and acquired. The congenital type of the stricture is rare, excepting at the external urinary meatus,

and in my estimation, in this location, it should not be termed a stricture, but rather a congenital narrowing.

This narrowing at the meatus is not likely to cause any annoyance, and only assumes pathological significance upon the occurrence of urethritis or where it becomes necessary to explore or treat the urological tract for pathologic condition with instruments of a larger calibre than the narrow meatus will admit.

Another point of congenital stricture is at the junction of the fossa navicularis and the penile urethra, and here I wish to state that I fully agree with the view expressed by Otis: That the fossa navicularis is not the normal condition of the terminal portion of the urethra, but is the result of forcible dilation caused by a contracted meatus. This is readily demonstrated by the relative size of the fossa navicularis, it being larger in those cases where the meatus is narrowest, and in those cases where the meatus corresponds with that of the urethra in size, we do not find a fossa navicularis.

Other points at which we occasionally find congenital strictures are at the bulbo-membranous junction and between the verumontanum and the internal sphincter.

The strictures of most interest and pathological importance are those of the acquired type, and these may be divided into spasmodic, inflammatory and cicatricial. I shall briefly dismiss the subject of spasmodic strictures by saying that they are always due to psychic conditions, or may be due to secondary irritation in the genito-urinary tract, or ano-rectal region, or upon attempting instrumentation or treatment in the urethra or ano-rectal region.

Acquired strictures of the urethra, in from 90 to 95 per cent are due to gonorrheal urethritis, the other 5 or 10 per cent. being due to traumatism or pressure upon the lumen from surrounding pathological lesions. And here, we, as Medical men, should stop to consider the seriousness of gonorrheal urethritis and explain to our patients the pathological importance of what they consider a simple little case of clap. Realizing that gonorrheal urethritis is the cause of stricture in this large percentage of cases, isn't it our duty to prevent their occurrence as far as possible?

The reason gonorrheal urethritis so often produces inflammatory or cicatricial contraction of

the urethra does not depend primarily upon the severity of the infection, but rather upon the condition which tends to prolong the inflammation: i. e., narrow meatus, phimosis, hypospadias, injudicious use of local remedial agents, and excessive use of alcohol. By the injudicious use of injections, I do not mean to advance the idea that strong injection can produce strictures of the urethra by their caustic action, but rather by prolonging the irritation and thereby producing a hyperplasia which eventually becomes connective tissue. Therefore the more quickly the urethritis is cured, the less the liability of stricture formation.

In taking up the consideration of the acquired type of stricture, let us stop and view the pathological process that takes place, also where they most often occur and the types that may result. Following the acute infection in the urethra, the inflammation becomes more intense in certain areas; these being where the urethral mucosa is richest in glandular structures and that accounts for the frequency of strictures in the bulbous urethra, next at the junction of the fossa navicularis and the penile urethra, where the epithelium changes from squamous to columnar; and another place about 2.5 inches from the external urinary meatus. Strictures of the prostatic urethra never occur, except as the result of traumatism. The type of strictures are inflammatory or soft infiltration, and the cicatricial or hard, the latter being only a transitional form or preceding the former.

Early in the formation of a soft infiltration there is a desquamation of the epithelial cells and a hyperplasia of the connective tissue elements of the sub-mucosa and muscularis, and as the inflammatory process progresses, the hyperplastic connective tissue cells become hypertrophic, and like cicatricial tissue in other parts of the body, begins to contract, forming fibrous masses or bands. The contraction gradually causes destruction of the blood vessels, and the cicatricial tissue encroaches more and more upon the lumen of the canal as the years roll by, until complete obstruction to the passage of the urine results. Behind the constriction, the mucous membrane becomes thin and fragile as the result of urinary decomposition and here the gonococci may lay dormant for years. All symptoms of urethritis in the meanwhile having disap-

peared with the exception of a watery discharge, sometimes only in the morning, at other times, also during the day. It is this secretion which constitutes the discharge in most cases of gleet incidental to stricture. As the urine passes over this part, the secretion, in combination with the more or less desquamated epithelium, is rolled up in little thready filaments (tripper-faden) or shreds. The symptoms which stricture of the urethra produce are not always pronounced, and the fact that a sound of a large size passes through the urethra without meeting any obstruction, does not remove the possibility of the presence of one or more strictures. The symptoms which we are almost always called upon to treat are those produced by strictures of large calibre and unless we bear this in mind, a large percentage of the cases we attempt to treat for chronic anterior urethritis will result in no improvement.

As the symptoms produced by strictures of large calibre are so often vague and indefinite, that often they are attributed to pathological conditions of adjacent genito-urinary organs, I desire to urge the importance of careful examination of the urethra before commencing treatment. A symptom that is always present in strictures of large calibre is urethral discharge, this manifesting itself either as a morning drop or a continual sluggish discharge, the character of the discharge varying from thick and creamy to thin and watery. This may be the only symptom, and irrespective of all manners and forms of treatment, may persist until a correct diagnosis is made and proper treatment instituted. Another symptom often observed is a slight burning on urination and an indefinite irritation in certain parts of the urethra or at the external urinary meatus. Sexual symptoms are sometimes pronounced, there being premature ejaculation, and as a resultant, prostatic inflammation, irritation of the sexual center with frequent erections and sexual excesses, or in some cases weakened or imperfect erections. In some cases where the strictures are dense and there are large deposits of scar tissue, erections are painful.

In strictures of large calibre, we do not observe dripping of urine after urination, nor are there any subjective symptoms of obstruction to the free passage of urine. The character of the urine varies from a clear urine with shreds, to

a cloudy, heavy urine. In strictures of narrow calibre the symptoms are more definite, the urethral discharge is exaggerated and the patient may notice the change in the character of the stream and that it takes him longer to pass his urine than formerly, this being due to the fact that the urine is not able to pass through the narrowed portion of the urethra as rapidly as through the normal urethra. The difficulty to start the stream does not occur until the urethra is almost entirely obstructed, as the bladder undergoes a compensatory hypertrophy as the stricture becomes narrower and narrower and is thereby able to exert more pressure. As the narrowing of the strictured portion of the urethra continues, dripping begins to occur and may eventually amount to an almost continuous leakage of urine, due to an over-distended bladder. Frequency of urination occurs only when the bladder is unable to empty itself.

The sexual symptoms here are a disturbance of ejaculation with semen flowing back into the bladder or oozing out slowly after erection has subsided.

Complications that may occur must always be borne in mind, and these may become so marked that they predominate in seriousness over the original pathological obstruction. Among the sequelæ of stricture we should consider extravasation of urine, which is not the result of rupture of the urethra back of the stricture, but results from the local inflammation, the same being either circumscribed or diffuse, which causes an erosion in the urethral mucosa and periurethral connective tissue and infiltration of urine into the tissues. We should also consider vesical stones, seminal vesiculitis, hernia, fistula, hemorrhoids and pathological changes in the bladder and kidneys.

The diagnosis of a stricture of the urethra can only be made by determining the presence of an obstruction or a narrowing. Although the history and the subjective symptoms may suggest their presence, the proper procedure is to demonstrate their presence by means of the instruments at our command. The fact that a 20 or 22 French sound passes through the urethra without encountering any resistance does not remove the possibility of the presence of one or more strictures of even a larger calibre than that of the sounds used. The sound being conical and the stricture or strictures being more or less

resilient, it does not convey any feeling of resistance or grasping except in the hands of a few men with large experience. Yet this type of large calibre stricture is the one that is most frequently seen. The existence of stricture of the urethra is best determined by means of the urethrometre, olive tip bougie and the urethroscope. Of all these I consider the olive tip bougie the most reliable, as it not alone demonstrates the presence of the narrowing but also its character. To determine the character of the narrowing is of the greatest importance as the subsequent treatment depends upon the same. Beginning with the olive tip bougie 30F, and if the meatus is narrow I do a meatotomy, I explore the calibre of the urethra, if I encounter any obstruction and am unable to pass through with gentle pressure, I withdraw the 30F and attempt to pass through with a 28F; if still unable, I reduce the size of the bougie until just able to pass through the narrowest portion of the urethra with gentle pressure. I then determine the size of the bougie that passed through, the distance from the meatus and the character of the stricture, which the bougie imparts to the examining finger, whether the stricture is soft and velvety, resilient or dense and firm. I also notice whether the passage of the instrument has caused bleeding, as this occurs in the type of the soft stricture and is of importance in the treatment. Where the meatus is narrow and the patient refuses to submit to a meatotomy, I resort to the use of the urethrometre, which being a narrow instrument in the collapsed position readily passes through the tight meatus and in that way determine any obstruction or narrowing of the urethra.

For determining the character of the stricture, the urethroscope is perhaps the most reliable, as here we can readily see whether the narrowing is due to a soft hyperplastic infiltration or to a hard dense cicatricial deposit of connective tissue. In those cases where only a filiform is passed with difficulty, these cases are always of the cicatricial type.

Impassible strictures are not frequently seen and in my experience I have frequently found that strictures which at first were apparently impassable permitted the passage of a filiform where gentleness and sufficient patience were exerted.

Spasmodic stricture is diagnosed by the ready

passage of the instrument with a slight gentle persistent pressure, or in cases where the instrument passes readily after a hot bath and after the administration of morphin or an anesthetic.

Treatment.—To successfully treat strictures of the urethra the diagnosis of the character and their location is of the utmost importance. Otis in 258 cases found 94 per cent. of strictures were in the first $5\frac{1}{4}$ inches of the urethra. I hold it to be beyond dispute that certain types of strictures can not be dilated successfully, any more than cicatricial tissue elsewhere in the body can be dilated. In strictures located anterior to the bulbo-membranous junction of the hard cicatricial type the treatment of choice is internal urethrotomy. In the same type of stricture located back of the external sphincter, external urethrotomy should be performed as here the danger from hemorrhage must always be taken into consideration.

In the recent soft hyperplastic type of stricture gradual dilation will cause an absorption of the pathological deposit and the restoration of the normal calibre of the canal. In this group of cases the dilation should be carried out by means of sounds or dilators, the same being introduced once every 4 or 5 days and left in the urethra for 5 to 10 minutes, the size being gradually increased, the dilation to be always followed by an antiseptic wash of the urethra, the best wash being either weak solutions of silver nitrate or oxycyanide of mercury 1 in 4,000.

Internal urethrotomy should be performed on all strictures of the hard cicatricial type located anterior to the external sphincter that do not improve with the dilation or wherein the judgment of the surgeon, dilation would not be of benefit. The operation can be successfully and painlessly performed under local anesthesia. After washing out the anterior urethra, two drams of a 4 per cent. cocaine solution are injected and left in the urethra for 10 minutes, this gives complete anesthesia and the patient does not complain of pain during the operation. Having previously determined the location, size and character of the stricture, I now proceed to divide it. If the calibre of the stricture is too narrow to permit the passage of the Kreissl dilating urethrotome, I first divide the narrow bands with the Maissonneuve urethrotome until a sufficient opening is made to permit the passage of the dilating urethrotome of Kreissl. I now ascertain the cali-

bre of the divided strictures with olive tip bougies and inserting the dilating urethrotome, I dilate the stricture four sizes beyond its calibre and proceed to cut through it, the incision being always on the dorsum or roof of the canal, due to the greater frequency of the cicatricial deposit being located here and also to the fact that we have less hemorrhage or danger of producing a urethral fistula. I now again determine the calibre of the divided bands with olive tip bougies and if less than 30F, I again proceed to divide the same until all have been divided to 30 or 31F, that being approximately the normal calibre of the urethra.

The success of the operation depends on the absolute division of all bands comprising the stricture.

The patient is now kept at rest in bed for 5 or 6 days and put on a dry diet, allowing only the smallest quantity of fluids necessary to his comfort. During the period in bed, the patient should be catheterized with a 14 to 16F. soft rubber catheter. After the sixth day he urinates, as by that time the cut area is covered by a thin layer of epithelial cells and does not permit the infiltration of urine into the subcutaneous tissues.

Beginning eight days after the cutting of the stricture I start to dilate the urethra with a Kollman dilator, finding I can dilate the same to about 36F., I continue the dilation at weekly intervals and am able to dilate the urethra to 40F. at the end of about 4 or 5 weeks. The dilation is now continued at two week intervals for two or three times and after that once a month for another two or three months.

Relative to the treatment of strictures by electrolysis I desire to say that in my experience it has not proven of any material benefit. I will admit that a stricture that will arrest an ordinary sound 2 or 3 sides larger than its calibre, will permit the passage of an electrode of the same size, when it is attached to the negative pole of the galvanic current, and a current of 3 or 4 milliemperes is passed through it. However, I find that that area of strictured urethra again recontracts and I do not believe that cicatricial tissue can be absorbed by electricity.

For strictures of the deep urethra which do not respond to treatment by dilation, perineal section should be performed, an operation with which you are all familiar.

32 N. State street.

TAKING STOCK OF SARANAC.

HIGHLY FAVORABLE CONDITIONS FOUND AT THIS FAMOUS RESORT.

F. B. Ames, of Boston, reports on a tuberculosis survey of Saranac Lake, New York, in the June number of the *American Review of Tuberculosis*. The village owes its growth and present standing to its reputation as a health resort for tuberculosis patients. A careful house to house canvass was made and all data and tabulations were based on personal interviews. No clinical or laboratory examinations were made to verify the data. The people co-operated frankly and well and the numbers of individuals whose egotism was large enough to hide their sense of civic duty was very small. The indigenous mortality and morbidity, including the incidence among children, are compared with the results of other similar studies. General factors as well as local influences are considered and analyzed. The report ends with the following conclusions:

About one-fifth of the total population of the district is made up of individuals who went to live there for their health. The number who went for any disease except tuberculosis is negligible. Pulmonary tuberculosis is the most common form of the disease manifested.

Six per cent of the tuberculous persons listed in the survey had not been under the care of a local physician since their residence in the district.

Indigenous morbidity and mortality were low; but .3 of 1 per cent of living cases being found among the native-born and .9 of 1 per cent among previously health residents. This result is in accord with investigations elsewhere, and the conclusion seems justified that there is a minimum danger of infection of healthy adult residents of resorts frequented by tuberculous patients. The more general application of this statement is worthy of careful consideration.

A total of 61 per cent of negative family histories was obtained. This would indicate that sources of infection are widespread and that absence of direct family history by no means presupposes freedom from adult manifestation of clinical disease.

In families with both parents tuberculous there is more clinical tuberculosis in the children than if only one parent is tuberculous. Incident morbidity is very low among children in the health district.

Educational influences emanating from nearby sanatoria, and locally the "open door" for the tuberculous into unrestricted industrial and social activities, have done much to remove fear and ignorance and to create an intelligent public attitude toward the disease. With this same attitude existent the problems connected with the control of tuberculosis are becoming less and less difficult of solution.—(Ames, F. B.: *Tuberculosis Survey of Saranac Lake*, *Am. Rev. Tub.*, 1918, Vol. II, No. 4.)

ILLINOIS MEDICAL JOURNAL

Published monthly by The Illinois State Medical Society under the direction of the Publication Committee of the Council.

GENERAL OFFICERS, 1918-19

PRESIDENT.....	E. W. FIEGENBAUM, Edwardsville
PRESIDENT-ELECT.....	J. W. VANDERSLICE, Chicago
FIRST VICE-PRESIDENT.....	H. C. BLANKMEYER, Springfield
SECOND VICE-PRESIDENT.....	CLARA SEIPPEL, Chicago
TREASURER.....	A. J. MARKLEY, Belvidere
SECRETARY.....	W. H. GILMORE, Mt. Vernon
(Ex-officio Clerk of the Council)	

THE COUNCIL

First District		Alternate
Councilor		
E. Windmueller, Woodstock	C. E. Crawford, Rockford	
Second District		
Edwin S. Gillespie, Wenona	J. H. Edgcomb, Ottawa	
Third District		
Clyde D. Pence, Chicago	S. J. McNeill, Chicago	
Fourth District		
T. W. Gillespie, Peoria	Coleman J. Eads, Oquawka	
Fifth District		
Charles S. Nelson, Springfield	F. C. Gale, Pekin	
Sixth District		
Henry P. Beirne, Quincy	L. O. Frech, White Hall	
Seventh District		
Chas. F. Burkhardt, Effingham	W. W. Murfin, Patoka	
Eighth District		
Cyrus E. Price, Robinson	H. N. Rafferty, Robinson	
Ninth District		
Charles W. Lillie, E. St. Louis	W. F. Grinstead, Cairo	

Clyde D. Pence, *Chairman*, 3338 Ogden Avenue
Send original articles and all communications relating to advertisements and mailing list to Dr. Clyde D. Pence, Editor, 3338 Ogden Avenue.

Membership correspondence to Dr. W. H. Gilmore, Mt. Vernon, Ill.

Society proceedings and news items to Dr. Henry G. Ohls, *Managing Editor*, 927 Lawrence Avenue, Chicago.

Contributors will submit all copy for publication typewritten on standard size paper and double spaced. Copy not complying with this rule will be returned, if convenient.

MEDICO-LEGAL COMMITTEE

WILLIAM O. KROHN.....	Chicago
E. E. EDMONDSON.....	Mt. Vernon
D. R. MACMARTIN.....	Chicago
F. C. FISHER.....	Bloomington
C. B. KING, <i>Chairman</i>	Chicago
GEORGE STACY, <i>Secretary</i>	Jacksonville

GENERAL COUNSEL

ROBERT J. FOLONIE.....	39 S. La Salle Street, Chicago
------------------------	--------------------------------

State society will pay no bills for legal services except those contracted by the Committee. Notify the Chairman at once. Do not employ attorneys.

JULY, 1918

Editorial

PASTEUR TREATMENT BY MAIL

This is the time of year when reports of so many dog bites are coming in. The majority of them, of course, will not develop rabies, even without treatment. We have no way of ascertaining definitely in most cases whether or not there is a considerable danger, but one case of well developed rabies in the human will convince any physician that he should take no unnecessary chances.

It is reported that no authentic case of rabies has developed after the person bitten has been treated with the Pasteur treatment. This fact had led physicians generally to advise this treatment in most suspicious cases at least, and many have availed themselves of the treatment.

Many times, however, it seems impossible to have patients go to one of the large cities where such treatments have been given. Many times it is almost impossible for them to go and remain three weeks for treatment. With this in mind the laboratory men have evolved a method of making a standardized preparation of the virus and mailing it in sealed ampules. The preparation of virus is not a stable one, therefore each dose has to be mailed separately, one dose each day. Several of the laboratories advertising in the JOURNAL are prepared to serve the physician in this manner.

In this way the attending physician is able to treat his own patient. The patient may remain at home and go about his business every day. This method of service has an immense advantage for patients living a long distance in the country.

We have been informed by one laboratory that the treatment given in this manner is efficacious, and that no case of rabies has developed after this method. This means that the doctor in remote districts may safely treat his own patient, and further, he is negligent if he does not do it, or if he does not at least advise such treatment for all persons bitten by suspicious canines. There can be no more difficulty in giving the treatment than there is in giving vaccines and serums.

A NEED FOR ANOTHER FORM OF MEDICAL INSTITUTION

Since medical history has been written there have been countless numbers of unfortunate victims of some mental aberration or other condition of nervous origin. The caring for these unfortunates has always been a problem both for the friends of the patient and for the commonwealth.

One shudders when reading of the care and treatment of the insane of a century ago. Our state insane asylums of fifty years past were less than places of detention, and we can not feel

much pride in reading of the treatments in these institutions of fifteen and twenty years ago. Advanced medical thought together with a broader humanitarian view has revolutionized these state institutions, and we wish to applaud the good work being done in many of them today. For the many private sanatoria established for the treatment of these patients, and which are doing the advanced work in psychotherapy, we applaud still more.

Both the state hospital for the insane and the private sanatoria are doing the right kind of work, and must remain, but there is great need for another sort of hospital or sanitarium. The private sanatoria, of the right sort, are ideal for those patients whose finances are equal to the burden. Patients of this class compose a very small percentage of the total number, and always we will have many patients who are not financially able to have such care.

The state institution, while it undoubtedly is now doing good work, still leaves much to be desired from some viewpoints. The process of a legal commitment to a state institution is extremely distasteful to most families. It is adding another pang to their already over-wrought nerves. This commitment virtually takes the patient entirely out of any control of the friends, and this is another grief added.

Many families would much prefer to have these patients remain under the charge of their regular physician, and in many instances this is desirable. The family may wish to have the patient nearby, where frequent visits may be made. Many of these patients recover in a short time, or at least improve to the extent where it becomes desirable to have them free from institutional regime. The stigma of a residence in a state insane asylum always remains. There is no such stigma attached to a local hospitalization.

People having these mental diseases appear in their families would much appreciate having a local hospital in which to place these patients, at rates they could afford, until at least the case is proven incurable. Why such an institution—an institution open to the profession, where the physician remains in charge of his patient—is not organized in Chicago is not clear to us. The question of local hospitals, arranged and maintained for the care of this class of patients, should be considered by the profession. Such institu-

tions must apparently always be started by physicians. Will it not be of advantage to the profession to start such an institution?

BEQUESTS TO PUBLIC INSTITUTIONS.

A rich man recently died in Chicago, and left the greater portion of his immense wealth to two of Chicago's well-known public institutions.

This we believe to be the right thing to do with large fortunes. The money amassed by fortune makers comes from the people, legally it is true, but with some question of equity, and it should return to the benefit of the people and not in a great measure go to a very few of the dead man's relatives.

In bequeathing large fortunes to a few individual relatives at least two things are accomplished that are wrong. It deprives the enriched relative of the pleasure of making his own fortune, and it frequently unites great fortunes into immense trusts, which are not to the best interests of a democratic government.

We like to think of a great financier, when finally he is done, remembering where his wealth came from; we like to think of him remembering the needs of the common people; we like to think of him remembering with gratitude the land—the city—where his prosperity found him; we like to think of him remembering the joys and the ill fortunes of his people. He has thought well of all these when, after the great experience has come to him, it is found that his wealth is left for the benefit of the people to aid in the alleviation of pain and suffering, and to add to the pleasures of those who made his wealth possible. The memory of such a man will live.

There are so many things that may be done for the people through endowments that the wonder is more endowment funds are not created for a greater variety of purposes. It is necessary many times, it seems, that an institution must be organized and working more or less efficiently before the cause of its existence and usefulness is brought forcibly to the attention of the people; and, therefore, before a project receives endowments it must prove the need and the feasibility before it is likely to benefit from such. Perhaps this, too, is as it should be.

Long live the memory of the man who leaves his wealth for the betterment of humanity.

Public Health

REVISED TUBERCULOSIS RULES

The rules and regulations of the State Department of Public Health for the control of tuberculosis, approved and in force August 1, 1917, have been revised with certain important changes and additions and these revised rules were effective throughout the state June 1, 1918. One of the new provisions which is designed not only for the protection of the public health, but for the interests of the sick individual is that which requires that the permission of the State Department of Public Health and the consent of the health authorities at the place of destination must be obtained before a person suffering from open pulmonary tuberculosis can be removed from one health jurisdiction to another. A similar rule applies in the control of other communicable diseases.

While the rules as originally drafted have resulted in a very considerable increase in the cases of pulmonary tuberculosis reported by physicians to health authorities, these reports have not been as complete as is desirable on account of the misunderstanding on the part of a large number of physicians as to some of the essential sections. The rules require that all known or suspected cases of pulmonary tuberculosis shall be reported to the local health authorities by the physician, attendant, parent, householder or other person having knowledge of such cases and the rules impose this duty and obligation equally upon all these persons.

While some of the sections of these rules and regulations apply only to open cases of pulmonary tuberculosis, the rule requiring the reporting of cases is subject to no such limitation. In a great many instances it has been found that physicians have failed to report cases of pulmonary tuberculosis on the ground that they were not "open cases."

One of the sections of the Illinois rules which has brought forth commendation and approval from health authorities in all sections of the country is that which prescribes that the physician shall notify the patient and the members of his family and household as to the nature of the disease and that he shall also give such instruction as will tend to safeguard those about him and to protect them from infection.

On account of the tremendous importance of tuberculosis as a war-time problem the State Department of Health urges that all Illinois physicians immediately report to their local health authorities all known or suspected cases of this disease of which they are aware at the present time and that future cases be immediately reported to the health authorities as they come to the attention of physicians.

SANITARY ENGINEERING ACTIVITIES FOR JUNE

The Division of Sanitary Engineering of the State Department of Public Health has been engaged during

the past month in the investigation relative to pollution of water supplies by industrial wastes. This work was done for the Division of Waterways of the Department of Public Works and Buildings, the chief activities being at Rockford and Chicago Heights.

Representatives of the Division of Sanitary Engineering are now engaged on a tour of inspection in the southern part of the state investigating polluted municipal water supplies.

Considerable activity is still being maintained in sanitary investigations in the zones surrounding the several military camps and cantonments.

THE ILLINOIS BABY HEALTH CONFERENCE

The State Department of Public Health is perfecting plans for the annual Baby Health Conference to be held in connection with the Illinois State Fair in Springfield from August 9 to August 26. The Conference this year will extend over a period of two weeks and will afford an opportunity for the examination of more children and for more detailed attention to the individual child on the part of the examiners and attending physicians. The activities of the Child Welfare Department of the Women's Council of National Defense in bringing about local better baby conferences throughout the state as a part of a war-time program is already stimulating interest in the annual state conference.

It is announced that the prizes to be awarded to babies attaining the highest score will consist of considerable numbers of Liberty Bonds in addition to the loving cups, bank accounts and other prizes customarily given. It is expected that practically every section of the state will be represented by children this year.

The Division of Child Welfare and Public Health Nursing of the State Department of Public Health is arranging a schedule of lectures and demonstrations to be held in connection with local chautauquas throughout the State during the summer and autumn.

ILLINOIS COURSE FOR COMMUNITY NURSES

The Illinois Course for Community Nurses created to meet the demand for public health nurses in many sections of Illinois and particularly to replace the public health nurses who have gone into Red Cross service, is now in successful operation. The student nurses are being received and assigned for field work in various communities in which efficient public health nursing is being carried on. On July 15th, the class will be assembled at Springfield for two weeks of intensive didactic instruction under the general supervision of Miss R. Eleanor Gillespie, formerly of the Nurses School of the Western Reserve University. Following this two weeks of lectures the nurses will be given instruction in the subnormal child at the

Lincoln Farm and Colony for the Feeble-minded and in other phases of state charities at the several institutions in Jacksonville.

Following an added three weeks of field work the class will be re-assembled at Springfield for a week of review and special lectures.

The course is being given jointly by the State Department of Public Health, the State Department of Public Welfare and the Illinois Tuberculosis Association, the executive board being made up of Dr. C. St. Clair Drake, Mr. Charles H. Thorne and Dr. George Thomas Palmer, representing these organizations. The Chicago School of Philanthropy, the Elizabeth McCormick Memorial Fund and other state and health organizations are co-operating in the plan. This method of training nurses for work in smaller communities through the co-operation of governmental and extra-governmental agencies is being watched with interest by other states and an announcement has been received that a similar plan will be carried out in New York through the joint efforts of the State Charities Aid and the State Department of Public Health.

Registered nurses who are willing to agree to accept public health positions in Illinois upon the completion of their training will be received in the course until July 15th. There are no fees or charges of any kind. It is stated that the course will be repeated during the ten weeks beginning about September 20th.

PUBLIC HEALTH NOTES

On account of the unusual prevalence of smallpox in many sections of the State and in some instances within close proximity of military cantonments, the State Department of Public Health is urging vaccination as a patriotic duty. As a part of the educational program leading to this end the Department is supplying motion picture houses throughout the state with colored stereoptical slides which are attractive in character and which carry their message in short, terse sentences. It is stated that this wide publicity through motion picture houses has resulted in a very large increase in the numbers of vaccinations through the State.

TRI-STATE DISTRICT MEDICAL SOCIETY

The Tri-State District Medical Society extends to the physicians of Wisconsin, Iowa, and Illinois a hearty invitation to attend its annual scientific and clinical meeting to be held at the State Capitol, Madison, Wisconsin, August 20, 21 and 22.

Madison is a beautiful city surrounded by Wisconsin lakes, an ideal location for a medical meeting at this time of the year. Besides the benefits the members and other physicians will derive from the meeting, it will furnish a splendid outing for the guests of the association.

Our experience has been that the latter part of August and the first part of September is an ideal time for a meeting in this part of the country. The weather is generally cool, and the roads permit the physicians to come from all parts of the three states in their automobiles.

Surgeon General Gorgas of the United States Army will be a guest of honor at this year's meeting, and he has accepted a place on the program, and expects to be present if war conditions permit.

One of the sessions of the meeting will be devoted to the selective service regulations. At this meeting there will be a joint conference of the local, district, and medical advisory boards of the three states. Provost Marshall General Crowder of the war department has kindly designated Major Hubert Work and Colonel Easby-Smith of the Provost Marshall General's office, Washington, to take charge of this meeting.

The Governors of the three states along with their medical aides, Dr. Rock Sleyster of Wisconsin, Dr. W. W. Pearson of Iowa, and Dr. John Dodson of Illinois, have signified their hearty co-operation in arranging this conference.

Among the notable physicians and surgeons who have accepted invitations as guests of honor at this year's meeting if war conditions permit, are:

Dr. Arthur Dean Bevan, President American Medical Society; Dr. Alexander Craig, Secretary American Medical Society; Major William J. Mayo, Rochester; Colonel Frank Billings, Chicago; Major Joseph Bloodgood, Baltimore; Dr. Austin Flint, New York; Dr. Edward Davis, Philadelphia; Major Fred Albee, New York; Dr. Charles Burr, Philadelphia; Dr. William Lower, Cleveland; Dr. Carl Davis, Chicago.

Another feature of the program will be twenty-four papers and twenty-four discussions by local physicians from the three states.

The social feature will be observed as usual and the Doctors are invited to bring their wives, daughters, and lady friends.

Madison as a medical center is one of the finest in the Middle West. The physicians and hospitals of this city are among the best in the country, and the very fact that the meeting is to be held in this city is synonymous with success. Madison and its physicians extend you a hearty invitation to be a guest at this meeting.

The sessions will be held in the Assembly of the State Capitol with the exhibits displayed in the rotunda.

A more complete program of the meeting will appear in the August number of this journal.

Program Committee—William B. Peck, President; Nelson C. Phillips, Secretary; Dr. W. T. Lindsay, Madison, Wis.; Dr. H. G. Langworthy, Dubuque, Iowa; Dr. C. L. Best, Freeport, Ill.

Society Proceedings

Illinois State Medical Society

OFFICIAL MINUTES OF THE SIXTY-EIGHTH ANNUAL MEETING

HELD AT SPRINGFIELD, MAY 21-23, 1918

MINUTES OF THE MEETING OF THE HOUSE OF DELEGATES

Tuesday Evening, May 21, 1918

The meeting was called to order by the president, Dr. Elmer B. Coolley, at eight o'clock in the Blue Lodge Room, Masonic Temple, Springfield, Ill.

Reading of report of the Committee on Credentials.

A motion was made that the delegates from the various counties, as presented by Dr. Gilmore, be seated. The roll was then called and a quorum found to be present.

The minutes of the last meeting, having been printed in the JOURNAL, were approved without being read.

The secretary's report was then read.

SECRETARY'S REPORT, 1918.

Gentlemen of the House of Delegates: Your Secretary begs to report the collection of the following funds from all sources, from Jan. 1, 1917, to Dec. 31, 1917, and from Jan. 1, 1918, to April 30, 1918, inclusive:

	1917	1918		1917	1918
Adams ...\$	125.00	\$ 170.00	Iroquois		
Alexander	55.00	62.50	Ford ..	182.50	82.50
Bond	40.00	27.50	Jackson ..	78.00	70.00
Boone ...	45.00	42.50	Jasper ...	25.00	25.00
Browne ..	27.50	17.50	Jefferson..	68.50	....
Bureau ...	79.50	70.00	Jersey ...	15.00	....
Calhoun ..	....	....	Jo Daviess	57.00	47.50
Carroll ...	57.50	45.00	Johnson ..	30.00	27.50
Cass	40.00	....	Kane	267.50	107.50
Champaign	182.50	157.50	Kankakee ..	117.50	....
Christain..	....	142.50	Kendall ...	40.00	....
Clark	57.50	....	Knox	135.00	....
Clay	25.00	20.00	Lake	97.50	....
Clinton ...	36.00	17.50	LaSalle ..	8.50	201.00
Coles-Cum-			Lawrence .	35.00	32.50
berland..	92.50	50.00	Lce	47.50	....
Crawford .	75.00	65.00	Livingston.	122.50	30.00
Cook	6,965.00	5,000.00	Logan	30.00	....
DeKalb ..	77.50	45.00	Macon ...\$	102.50	....
DeWitt ...	67.50	32.50	Macoupin ..	116.50	....
Douglas ..	60.00	....	Madison ..	232.50	....
Edgar	60.00	50.00	Marion ...	37.50	\$ 102.50
Edwards ..	17.50	17.50	Marshall		
Effingham.	65.00	52.50	Putnam	65.00	22.50
Fayette ..	30.00	22.50	Mason ...	48.50	2.50
Franklin ..	22.50	....	Massac ...	35.00	30.00
Fulton ...	30.00	110.00	McDonough	77.50	82.50
Gallatin ..	39.00	27.50	McLean ..	232.50	192.50
Greene ...	82.50	72.50	McHenry .	87.50	77.50
Grundy ..	32.50	2.50	Menard ...	60.00	....
Hamilton ..	32.50	....	Mercer ...	60.00	22.50
Hancock ...	60.00	30.00	Monroe ..	....	30.00
Hardin ...	5.00	7.50	M'tgomery.	142.50	120.00
Henderson.	27.50	30.00	Morgan ..	120.00	117.50
Henry ...	112.50	90.00	Moultrie ..	27.50	....

	1917	1918		1917	1918
Ogle	37.50	36.00	Tazewell .	75.00	42.50
Peoria ...	205.00	317.50	Union ...	42.50	50.00
Perry	24.00	....	Vermilion.	305.00	27.50
Piatt	70.00	25.00	Wabash ..	42.50	....
Pike	68.35	62.05	Warren ...	57.50	48.50
Pope .....	....	5.00	Washington	40.00	45.00
Pulaski ..	32.50	22.50	Wayne ...	47.50	17.50
Randolph .	45.50	47.50	White ...	45.00	42.50
Richland .	5.00	7.50	Whiteside..	30.00	40.00
Rock Is...	140.20	107.50	Will	190.00	115.00
Saline ...	67.50	....	Williamson.	17.50	....
Sangamon..	280.00	....	Winnebago.	210.00	185.00
Schuyler .	15.00	15.00	Woodford.	52.50	....
Scott	22.50	17.50	Subscrip-		
Shelby ...	30.00	....	tion ...	25.50	10.00
Stark	12.50	20.00	Exhibits..	690.00	142.50
St. Clair..	204.00	182.50			
Stephenson	129.00	120.00		\$14,785.55	\$9,652.55
Total for 16 months, \$24,438.10.					

The collections for 1917 show a decrease of \$140.25 under 1916 and the first 4 months of 1918 show a decrease of \$577.95 under the same period for 1917. This decrease I consider remarkably small as society interest is at a very low ebb and the "Call of the Service" has come to over 1,700 men of the State. It is impossible to say what the future may bring forth, but I am inclined to be optimistic, as many of the component societies have decided to pay the per capita assessment of their members who are on active duty.

During the fiscal year of 1917, 195 voucher checks were drawn for \$24,329.38. Of this sum \$7,693.34 was for the medical defense and \$16,636.04 for the general expense of the Society and the JOURNAL. The expenditures of the Medico-Legal Committee exceeded the amount set aside for that fund by \$2,035.34. For the first four months of the current year 44 voucher checks amounted to \$8,992.26, \$2,128.85 for medical defense and \$6,863.41 for general expense and the JOURNAL. The large deficit in the medical defense fund in 1917 is partly covered by the amount so far set aside this year, but leaves, however, a net loss for 16 months of \$370.19.

The lack of interest in Society work mentioned above is the direct result of the war. Many officers of component societies have been called to active duty and their respective societies have not yet had time to find themselves. It is impossible to withdraw the services of so many men and not cause more or less disorganization in their respective societies. It is wonderful that it has not been greater.

Your secretary has not dropped from the roll all members in arrears for 1917 and this action has been justified by the action of many component societies deciding to keep up the membership of their members who are in the army and navy. During the past year 555 new members have been added, 113 reinstated, 349 have been dropped and 29 have died. The membership of the Society May 1, 1918, was 6,363.

Your secretary attended all the meetings of the Council during the past year, many meetings of the State Council of National Defense, Medical Section, two meetings of all the State committees, one in Chicago and one in Washington, and a conference of the State secretaries called by the A. M. A. in Chicago in

April. These meetings together with his duties as president of a medical examining board for the Medical Reserve Corps, added to a 5 weeks' confinement with a moderately serious illness, has kept him fairly busy. The increase in the Reserve Corps asked by the Surgeon General necessitates an additional 300 men from Illinois and this number must have been examined by July 1, 1918. This number will make the enrollment in the Medical Reserve Corps approximately 20 per cent. of the total medical population, or 2,089 medical officers from Illinois.

The A. M. A. has about completed a survey of every state in the Union showing exactly how many men from each county have already enlisted, but these figures are not ready at this time. However, it is possible to give the number each county in Illinois must offer to fill their full 20 per cent. The counties of Calhoun, Crawford, Cumberland, Dewitt, Douglas, Jackson, Jefferson, Marshall, Stark and Williamson are the only counties that had gone over the top according to the figures now available, but they are several months old and I feel certain that more will show the same desired result when the new survey is complete. In the following list I have compiled the number of men necessary in each county to make Illinois second to no state in the Union. We now stand 17th:

Adams	20	Lake	39
Alexander	6	La Salle	24
Bond	4	Lawrence	7
Brown	3	Lee	7
Boone	4	Livingston	12
Bureau	13	Logan	10
Cass	6	McDonough	9
Champaign	18	McHenry	10
Christian	10	McLean	25
Clay	7	Macon	21
Clinton	5	Macoupin	14
Coles	10	Madison	23
Cook	1,148	Marion	11
Carroll	6	Mason	5
Clark	7	Massac	3
DeKalb	10	Menard	3
Dupage	15	Mercer	6
Edgar	11	Monroe	3
Edwards	3	Montgomery	12
Effingham	8	Morgan	15
Fayette	7	Moultrie	5
Ford	5	Ogle	9
Franklin	11	Peoria	38
Fulton	19	Perry	5
Gallatin	3	Piatt	5
Greene	7	Pike	10
Grundy	4	Pope	2
Hamilton	4	Pulaski	4
Hancock	11	Putnam	2
Hardin	2	Randolph	9
Henderson	3	Richland	4
Henry	11	Rock Island	22
Iroquois	11	St. Clair	35
Jasper	4	Saline	13
Jersey	4	Sangamon	36
Jo Daviess	5	Schuyler	4
Johnson	5	Scott	3
Kane	33	Shelby	9
Kankakee	15	Stephenson	15
Kendall	3	Tazewell	9
Knox	17	Union	8

Vermilion	29	White	8
Wabash	4	Whiteside	11
Warren	3	Will	22
Washington	6	Woodford	5
Wayne	6		

The following counties—Calhoun, 2; Crawford, 9; Cumberland, 3; Dewitt, 6; Douglas, 7; Jackson, 10; Jefferson, 8; Marshall, 4; Stark, 4; Williamson, 13; have already reached or passed their respective quotas. The above figures are based upon the total number of male physicians in each county and not upon Society membership. It is manifestly impossible for some counties to fill their entire quota for they do not have the required number under 55 years. At both the Conference of State Secretaries in Chicago and at the meeting of the State Committees in Washington, the fact was emphasized that rural communities must not be stripped and industries must not be crippled. In the above instances the counties that can must bear the burden.

The grave question at this time is, who can and who cannot be spared? The time has been reached when the good of the individual must no longer be considered and we must all put our personal welfare aside and rally to the colors. The greatest thing the delegates at this meeting can do is to go home with the idea firmly fixed in their minds that these counties must do their respective parts. Have your president or secretary call a special meeting of your Societies and decide among yourselves who shall be ones to offer themselves to the Surgeon General.

Respectfully submitted,

W. H. GILMORE, Secretary.

DR. GILMORE: Since the first of May, I have collected enough money to take care of the deficiency referred to in this report. (Applause.)

The report of the secretary was accepted and placed on file.

Dr. Pence read the Report of the Council.

REPORT OF THE COUNCIL.

Mr. President, Delegates assembled, Ladies and Gentlemen:

As chairman of the Council of the State Society, it is my official duty to read to you a report of the proceedings of the Council during the past year.

The Council at the close of the annual session of the Society last year met for the purpose of organization. At this organization meeting your humble servant was elected chairman, and Dr. W. H. Gilmore, secretary; finance committee—Drs. Windmueller, Sibley and Price; publication committee—Drs. Nelson, Sibley and Arp; advertising committee—Drs. Gillespie, Burkhardt and Arp. Dr. Price was appointed to fill the vacancy on advertising committee caused by the death of Dr. Arp.

The work of the Council during the year has been much on the same order as that of other years; in some respects a little heavier, in others a little lighter. The Council as a whole was not called upon during the year to act as mediator in any society. The work

done by the Council for the various committees remains about the same as formerly.

The Committee on Medical History in Illinois has been hard at work, and the chairman, Dr. Carl E. Black, will probably give you a complete report of its activities.

The legislature not being in session this year, the legislative work has not been as heavy as last year.

The work of the Medico-Legal Committee has also somewhat decreased.

The Compulsory Health Insurance Committee has not had as much work to do, because of no legislature, but it has kept in touch with affairs. In this connection it is well to note that your president, Dr. E. B. Coolley, was appointed by Governor Lowden to act on an investigating committee on compulsory health insurance, and has been required to give up much time to this phase of the work.

Your president and secretary also, because of their official positions in the Society, have been required to give much time to the Committee on National Defense. This has made their work much more burdensome.

Your Council has been somewhat depleted by war conditions, as at the present time four members are in active service of our country—Dr. Center, Dr. Sibley, Dr. Gillespie and Dr. Burkhardt.

It is with extreme regret that we reported the death of Dr. A. H. Arp, councilor for the Fourth Councilor District.

Your treasurer's report shows a better condition than it has for many years. It does not show a red ink balance.

The Journal.—We have received more inquiries this year concerning the JOURNAL's standing than ever before. In fact the increased inquiry has been rather a puzzle to us. The inquiry from the membership has been largely relative to the financial condition. Possibly one reason for this is that during the year several of the smaller journals have suspended publication, and one or two others have formed combinations. Undoubtedly the year has been a trying one on medical journals, except it be the very large journals which have a large subscription fee.

The members of this body are aware, of course, that the income of the ILLINOIS MEDICAL JOURNAL is from advertising only. You are also aware that trade conditions during the year with medical and surgical importing houses have been nil, and for that reason these houses are not advertising. Many of our home firms cannot secure or produce sufficient goods to supply the demand, and for that reason drop their advertising expenditures.

The paper market at the present time is not quite as high as it was at the time of our last report, but it is still away above any price considered normal.

The cost of labor in the printing department has increased very materially. Labor in the printing of the JOURNAL is costing 15 per cent more than last year. We have been fortunate, I think, in our choice of publishers. It is, as you all know, difficult to secure labor of any kind, but more especially skilled labor.

Yet withal, we have experienced no delay, no shortage of paper, no inconvenience from such condition.

Cost of the Journal.—The cost of producing each number of the JOURNAL is as follows:

June, 1917	\$ 735.41
July, 1917	651.39
August, 1917	671.92
September, 1917	640.42
October, 1917	648.41
November, 1917	665.25
December, 1917	579.15
January, 1918	608.17
February, 1918	605.67
March, 1918	615.65
April, 1918	617.27
May, 1918	626.90

Total for twelve issues.....	\$ 7,665.61
------------------------------	-------------

To this we add:

Editor's salary	\$ 900.00
Managing editor's salary.....	720.00
Commissions on advertising.....	333.16
Stationery	20.50
Postage, approximately	660.00
One-half stenographer's salary	300.00
	<hr/> 2,933.66

Total cost of JOURNAL.....	\$10,599.27
----------------------------	-------------

Income from JOURNAL:

Total receipts from advertising.....	\$8,938.68
Less exchange	7.56

\$8,931.12

Balance in bank from last year.....	36.28
-------------------------------------	-------

Interest	4.52
----------------	------

8,971.92

Transferred to Treasurer Markley, \$8,600.00.

This is approximately \$1,250.00 more than was ever turned into the treasury of the Society by the JOURNAL in one year.

Total cost of JOURNAL.....	\$10,599.27
----------------------------	-------------

Income from JOURNAL.....	8,971.92
--------------------------	----------

Excess of cost of production over income...	\$ 1,627.35
---	-------------

This would indicate a cost of 25.7 cents for the JOURNAL per member per year, or 2.1 cents per copy.

We have in addition to the above reports due us uncollected accounts of \$1,329.10. These are the running accounts for the month and are good. They do not include the dead-beat accounts which are uncollectable.

The treasurer will read you his report and further comment from us is unnecessary.

Membership.—The membership of the Society has fallen off somewhat because of many members being in the army service. This problem promises to be the most important one for the future. The membership in the year to come will undoubtedly fall off very considerably, as the men are longer in the service, farther from home and as more medical men are called, unless some very efficient means are used to recruit the membership. This lessened membership will mean a very material decrease in the funds of the Society.

If the activities of the various committees of the Society are continued and increased—and it is desirable they should be—the expenses of the Society are necessarily heavier. We would urge this House of

Delegates in the session Thursday morning to consider this question.

The *Legislative Committee* has done much work during the last two or three years. It has been continually hampered because of lack of funds. The Council believes this committee should have a fund at its disposal, with which to take care of legislative matters at the proper time. It is impossible for this committee to do its best work without funds, and it can do very much more effective work if it has funds with which to do the work at the proper time in the proper way. The Council, therefore, recommends that the per capita tax should be raised fifty cents per member, and that this extra money be set aside as a special legislative committee fund to be used for legislative purposes, and to be handled in a similar manner as funds of the Medico-Legal Committee.

CLYDE D. PENCE, Chairman.

DR. PENCE: In addition to this report which is written, the Council has decided to recommend to the House of Delegates the creation of a fund for the Legislative Committee similar to that of the Medico-Legal Committee. We have a Legislative Committee which at times becomes a more or less expensive committee. They have to spend money to do their work, and there has not been a year in a long time that funds were not necessary for that committee's work. They have been hampered. The work at times has not been what it should have been because of lack of funds. A committee, to do good, active work, and to do it at the time it should be done to best advantage, should have a fund at their disposal which they can call on at any time for necessary expenses. At the present time they have a case where they ought to send an attorney to the Superior Court. There is no fund especially created for that purpose.

You have heard that one of the committees during the last year has expended more money than the committee has coming to it. It will necessarily be so in all probability from now on if the activities of these various committees is to be kept up or increased, and it will require more funds than the treasurer will have at his disposal.

The Council, therefore, will recommend to this House of Delegates that a fund be created for this Legislative Committee for that purpose and an additional fifty cents per capita be levied. This will come before you on Thursday morning.

A motion that the Report of the Council be accepted and placed on file was made, seconded and carried.

The report of the Treasurer was presented.

TREASURER'S REPORT.

June 1, 1917, to June 1, 1918.

June 1, 1918.	
Balance on hand	\$1,761.43
Received of W. H. Gilmore, Sec..	\$8,784.10
Received of ILLINOIS MEDICAL JOURNAL	8,600.00—17,384.10
Total .	\$19,145.53

Vouchers cashed	14,277.46
-----------------------	-----------

Balance on hand	\$ 4,868.07
-----------------------	-------------

REPORT OF MEDICO-LEGAL DEFENSE FUND.

June 1, 1917, to June 1, 1918.

June 1, 1918.	
Balance on hand	\$10,868.40
Received of W. H. Gilmore.....	5,423.50
Total .	\$16,291.90
Vouchers cashed	2,871.05

Balance on hand	\$13,420.85
-----------------------	-------------

Five thousand dollars of Medico-Legal Defense Fund invested in Liberty Bonds.

A. J. MARKLEY, Treasurer.

DR. A. J. MARKLEY: Last June I was ordered by the Council to invest in five thousand dollars worth of Liberty Bonds, which I did. (Applause.)

The report of the Treasurer was accepted and placed on file. A vote of thanks was extended to the treasurer for reporting a cash balance in favor of the Society.

The resignation of Dr. Windmueller from the Council was read. No action was taken on it, pending a proposed change in the constitution which Dr. Van Derslice said he would later present.

Reports from the 1st and 2nd Councilor Districts were called for, but none were presented.

Dr. Pence reported for the Third Councilor District.

COUNCILOR REPORT, THIRD DISTRICT.

Cook County Society, with its component branch societies, remains in much the same general condition as last year. It would not be expected that there would be no loss in membership, but the loss is small. Many of the men from Chicago who are in the service have only left recently, and their membership has not yet lapsed. This Society is in good condition, with little to complain of.

Lake County Society has forty-seven members in good standing—a loss of only two members.

Kankakee County Society has forty-three members in good standing—a loss of six members since last year.

I have no report from Will County.

A new county society has been organized in the third district this year, has received its charter, and is now a component society of the Illinois State Medical Society. Du Page County has formerly been united with Cook. It has now organized as The Du Page County Medical Society, and has sixteen members in good standing. There are about thirty-two doctors in Du Page County who have not yet joined this Society. Many of them will doubtless join in the near future.

The Society started out well, but before it was well under way the secretary resigned, and work came to a halt temporarily. Next year we expect a good re-

port from this, the youngest county society in the state.

CLYDE D. PENCE,
Councilor, Third District.

The report was accepted.

THE CHAIRMAN: It is well known to all of you that the Councilor from the Fourth District, Dr. Arp, passed away several months ago.

A report was presented for the Fifth District, which report was accepted.

COUNCILOR REPORT, FIFTH DISTRICT.

Mr. President and Gentlemen of the House of Delegates:

The Fifth District is composed of nine counties, viz., Menard, Sangamon, McLean, Logan, Tazewell, Iroquois, Mason, DeWitt and Ford. In my report last year I gave the total membership in the district as 381. This year the reports from the different counties give a total membership of 376, or five less than last year. The reports also show 22 new members enrolled, as against 21 lapses, and I trust these 21 are only temporary. There have been 12 removals from their respective counties, and six deaths. From this record it will show that the Society has made a little gain and is in a healthy condition. Reports also show there are 47 eligible physicians in the entire district of nine counties who are not affiliated with their county society.

Mason County is entitled to the honor of having every eligible physician living in the county a member of the society. Logan County Society, I am sorry to say, is entitled to the unenviable record of reporting the greatest number (20 physicians) who are not members, and I trust the Secretary and members of the Logan County Medical Society will make an earnest effort during the coming year to reduce this number very materially.

Other counties reporting eligible non-members are: McLean, 8; Menard, 4; Sangamon, 6; DeWitt, 6, and Ford, 3.

I wish to make special mention of the fact that 41 members of the Fifth District have gone to war, and it is the prayer of your Councilor if his prayers will avail, which, I doubt not, will find a response in the heart of every member of this Society, that these 41 members will all return at the close of the war, covered with glory and be able to resume their private practice with renewed vigor and success.

I have been in every county in the district several times during the past year in connection with my duties for the State Board of Health, and have tried to keep in close touch with the membership. I wish to thank the secretaries of every county collectively, and I will try to have an opportunity to thank them individually, for the courtesies shown me in their prompt response to my correspondence, etc.

I have attended every meeting of the Council with one exception, when I was away from home and failed to get the notice.

I am not a candidate for office, consequently I do

not consider it unbecoming of me to mention the good feeling that has existed between the members of the Council, and the earnest and harmonious efforts they have put forth to try to solve the many knotty problems that have arisen during these abnormal times, in order to "make both ends meet." Whether or not we have succeeded to your satisfaction will be left to your judgment after hearing the comprehensive report of our worthy Chairman and Editor.

I cannot close without mentioning the heart-felt sorrow that has existed in the Council since the death of our beloved co-worker, Dr. A. H. Arp of Moline, Councilor from the Fourth District. He was an earnest and conscientious member and his counsel and advice have been sadly missed.

Respectfully submitted,

C. S. NELSON,
Councilor Fifth District.

THE CHAIRMAN: Most of you know that Dr. Center, Councilor for the Sixth District, is in France. There is no report.

The Councilor from the Seventh District, Dr. Burkhardt, has made his report and placed it in the hands of the secretary, Dr. Burkhardt himself being in Fort Riley.

The report was read by the Secretary. It was accepted.

COUNCILOR REPORT, SEVENTH DISTRICT.

To the House of Delegates:

Owing to my service with the colors I am unable to take part in your deliberations at this, your sixty-eighth annual meeting. I have little of importance to report as your Councilor for the Seventh District, except that I have attended all meetings of the Council during the year past until I was called to active duty, which was March 31, the Council meeting which was held in Chicago during the month of April last being the first and only meeting which I have failed to attend. I have responded to all calls made upon me as Councilor of my district during the past year, and I consider the conditions in the Seventh District as good as any in the State.

In conclusion, I desire to urge all physicians who can possibly do so to answer the call of our country in its hour of urgent need. The medical profession should not fall short of its full patriotic duty, and while many thousands have answered the call several thousand are yet urgently needed.

Respectfully,

CAPT. CHAS. F. BURKHARDT, M. R. C.,
Councilor Seventh District.

M. O. T. C., Co. 27, Fort Riley, Kan.

COUNCILOR REPORT, EIGHTH DISTRICT

The Councilor of the Eighth Councilor District wishes to submit the following report:

There have been no deaths reported to me during the year. Quite a few men from the Eighth District are now serving in the army. Some counties in this District have their quota in the service, others are

way short. The interest in Medical Societies is really better than one would naturally expect them to be under existing conditions. A number of the Counties are holding monthly instead of bi-monthly meetings. Jasper and Lawrence Counties, however, are not up to the standard. They have had but one or two meetings in these counties during the year. I have visited Lawrence County once during the year when we had a fair attendance and a very earnest promise to continue monthly meetings.

Your Councilor has attended all the meetings of the Council during the year and on the whole feels that the conditions in the Eighth District are in very good shape.

Respectfully submitted,

C. E. PRICE.

The report of District Eight was received and placed on file.

THE CHAIRMAN: Next is the report of the Ninth District. The Councilor of the Ninth District, Dr. Sibley, is in the service, and his assistant, Dr. Lillie, will present the report.

COUNCILOR REPORT, NINTH DISTRICT.

To the House of Delegates:

In the absence of our Councilor it has fallen to me to report upon the conditions in the Ninth Councilor District.

In this district there are 22 counties, some of them being sparsely inhabited, and in some with but meagre public transportation facilities, facts which tend to limit the attendance at Society meetings, but all things considered there is a reasonable degree of activity among the medical men in the district.

I have reports from 21 of the 22 counties with the following facts:

There are 647 doctors in the 21 counties.

Four hundred and thirty-seven of these are in the County Societies.

From this it will be seen that a little more than 68 per cent are now members.

From the returns we find that nearly 8 per cent are returned as not eligible for membership.

There are 75 of the members of the County and State Society holding commissions, either in the regular army or in the Medical Reserve Corps. This is more than 17 per cent of the membership.

There are seven known to be in France at the time the report was compiled, and it is probable that several more are there at this time.

In consideration of the conditions prevailing at present I believe I can say that medical organization in Egypt is fair.

Respectfully submitted,

C. W. LILLIE,

Assistant Councilor, Ninth Councilor District.

The report was accepted and placed on file.

THE CHAIRMAN: We have now reached the Reports of Standing Committees. First, the report of the Committee on Medical Legislation.

REPORT OF COMMITTEE ON MEDICAL LEGISLATION.

The committee has been comparatively inactive since the last report on account of the fact that the Legislature has not been in session.

However, work is at present being done on organization throughout the State, since we anticipate a most hostile lot of attempts in the next session to amend the Medical Practice Act.

On account of the rather depleted state treasury, we have considered plans for raising money independently of the State Medical Society for the purpose of carrying out the work of Medical Legislation.

The first plan consisted of soliciting subscriptions to the set of bills, amounting to twenty-five or thirty bills, to be introduced in the next session of the Legislature. These bills were to be printed immediately and sent to the various subscribers. The twenty-five or thirty bills which will affect the Medical Profession were to be sent out primarily to interest the Medical Profession in general in Medical Legislation and secondarily to create funds for carrying out our work.

The second plan consisted of creating a special Legislative fund by assessing each member of the Society 50 cents for Legislative work. The same general scheme to be used as is in vogue with the Medical Defense Committee. I would appreciate consideration of this latter scheme by your body.

At the present time there is an urgent need for money by your Legislative Committee. At present, the H. M. Mettler case of Rock Island is in the Supreme Court and will be passed upon at the June session. Dr. Mettler, chiropractor, is attacking the validity of the Act and, I understand, is financed by the Palmer School of Chiropraxy.

We certainly should have legal representation at this trial, and go over the records carefully for its trial in Supreme Court.

Our entire Medical Practice Act may be declared illegal on account of this case, and especially on account of our negligence, which is due entirely to the lack of funds.

At present we have the best Medical Practice Act in America. It has raised our standards and has raised the standards of other practitioners. Since the provision of this law went into effect, but one Osteopath has qualified to take the examination. He was an M. D. before taking up Osteopathy. No Chiropractor has qualified. In view of this raise in standard, it is understood that the Chicago Osteopathic College has made arrangements to amalgamate with the Mother School at Kirksville and with the Osteopathic College in Washington. Their standard is to be raised and they are to have one large school in Chicago; with the idea of qualifying for the present law.

It is urged that County Medical Societies shall not appoint men for their Legislative Committee who are not active and alive to importance of Legislative

work. Appoint men who will sacrifice in every possible way in securing proper legislation.

We know that the drugless practitioners are mustering funds and legal talent to attack our Medical Practice Act and it becomes quite necessary that we organize and liberally donate funds for the use of the Legislative Committee.

In addition to the opening up of this act by hostile people, the Commissioner of Education and Registration has several suggestions to make which will necessitate opening the act for improvements, which he earnestly feels will be of great benefit to the Medical Profession and the people in general.

This consists of the following:

1. That the Commissioner may have absolute control of men entering Medical Colleges. He must have a license from the Board of Education and Registration to matriculate in the school of his choice.

This has many advantages, as are plainly seen.

2. The annual renewal fee, with a renewal of license is also advocated by the Commissioner. This has many good features which will be explained by the Commissioner on invitation before the House of Delegates.

3. Several minor changes are suggested which will not change the bill in any material way.

4. The Osteopaths are also attempting to change the Medical Practice Act as regards reciprocity for Osteopaths. Any amendment which they make must necessarily be scrutinized very carefully.

In addition to this a bill will probably be introduced along the line of the so-called Social Insurance Act. This will provide for General Health Insurance throughout the State.

A great deal of time and attention will be necessary to follow this bill through the House.

The last Legislature created a commission to investigate the advisability of the State taking up the Health Insurance scheme.

This commission, of which Dr. E. B. Coolley is a member, is now engaged in making a most thorough and exhaustive study. I am certain that their report will be the most complete ever made in this country.

This report will be given to the next Legislature with the idea of deciding whether or not we need health insurance in Illinois.

The questionnaires which you are all receiving are a part of this work and it is urged that everyone complete and return the same.

Respectfully submitted,

DON DEAL, *Chairman*,
N. M. EBERHART,
R. L. MORRIS.

Dr. VanDerslice moved that the report be accepted and that the recommendation be taken up under unfinished business on Thursday morning. The motion was seconded.

DR. BOWE: This is one of the most important matters that is going to come before the House of Delegates, and as Thursday will be the session at which

scientific and other papers will be discussed, I think it is likely to be slighted.

There is no matter that is going to come before this Society meeting that is of graver importance than this question that is right here before us, and while we have plenty of time tonight, why not thresh it out and give the committee some light if possible?

DR. BYRNE: I agree with Dr. Bowe, and would like to make a substitute motion, that we accept the report and discuss the recommendations tonight. (The substitute motion was accepted by the original mover, and was carried.)

DR. VANDERSLICE: I move that the proceedings be suspended and that Dr. Shepardson be invited to address us at this time. (Seconded and carried.)

DR. SHEPARDSON: I would apologize for appearing before you at the end of a long and warm and tiresome day, had I come here of my own initiative; but I came in answer to an invitation, although your president and others have shown me the courtesy of inviting me to address the Society on Thursday morning in a much more elaborate fashion than I shall now do.

This morning in the office of the Department of Registration and Education, which is the department under the civil administrative code which has in charge the administration of the Medical Practice Act, some questions were raised and discussed about possible amendments to the practice act.

The Department of Registration and Education feels strongly that if it were possible to think of a legislative session going by without any attack being made upon the Medical Practice Act, the wise thing to do would be to let it stand exactly as it is, in order that there might be longer experience than the law has now received. But we feel absolutely certain that because of the workings of certain sections of that law, it will be attacked, and we are extremely anxious that you and the Society you represent be armed and ready for that fight when it comes, and be strong enough in that contest to take advantage of the opportunity to make a few, relatively few, changes in the bill which will improve it, changes which the experience of the last ten or eleven months has seemed to prove desirable to make.

I want to talk with you tonight just for a few moments about one feature of a possible amendment, one which will arouse a great deal of antagonism, I am sure, as every good thing arouses antagonism, and in order to save your time, I have put this in exact language, and, with your consent, shall read it:

There are supposed to be approximately 12,000 individuals living who hold Illinois licenses to practice medicine. Where these physicians live no one knows. Some of them belong to the State Medical Society; some of them are members of county or local societies; some of them, not so affiliated with State, county or local organizations, are known to be reputable men and women, pursuing their calling in an honorable and proper fashion. But there are some thousands whose names and addresses are not found on the rolls of professional organizations, whose habits and habitats are unknown, unless, perchance, an indi-

vidual has become a quack, a faker, a caterer to degenerates, a purveyor of forbidden drugs, an abortionist. Then he receives a brief publicity, usually gets his difficulty arranged without delay, and again moves along the lines of irregular, unethical, and, too often, illegal and immoral practice.

The Department of Registration and Education, charged by the Medical Practice Act with the duty of enforcing the law, finds itself handicapped right at the start by having available no reliable list of lawful practitioners. It does not know where those reside who hold licenses from the State. It does not know how many persons are practicing the profession using the licenses of honorable men long since dead. It has discovered that there are some of this class. It has no means of ascertaining, except upon chance complaint or accidental discovery, how many hundreds of individuals are practicing in this State who have no lawful right so to do. It has reason to think that the number is large. The physician receives his license, and then is permitted to go without any regulation, unless he becomes a flagrant violator of the law.

The Department asks endorsement of the State Medical Society for an annual registration fee in order that it may accomplish the things entrusted to it by the Medical Practice Act:

1. Such a provision in the law would furnish the Department, at least once a year, the name and address of every living physician holding an Illinois license.

2. It thus would know what individuals, upon a given date, were legally entitled to practice medicine in Illinois; and, by implication, would know that other individuals whose names were not found on its list, were presumptive violators of the Medical Practice Act.

3. Such a list, placed in the hands of lawful practitioners, would be a most effective check list, which might be used all through the State for the reporting of those not entitled to the rights and benefits of this great profession. It would be a boon to that other large company of men and women who are working to protect the weak and unfortunate from the harpies who prey upon them.

4. The annual registration period would afford to the Department an opportunity to keep a closer watch upon the unworthy members of the profession by withholding certificates of registration pending investigation of charges or the outcome of hearings, permitted to those reputed to be guilty of improper practices.

5. The registration fees, individually small, would furnish the Department with a fund which might be used to good advantage in employing more inspectors and in providing the expenses of their travel in various parts of the State. The appropriations for the Department, it is understood, are made upon the basis of the fees paid to it. The expense of administration of the provisions of the Medical Practice Act is now greater than the receipts under that Act. That there is need for stricter inquiry and more rigid

enforcement of the law, everyone knows. The Department has the necessary machinery for accomplishing much more, if it had the inspectors to work for it and the means with which to pay the inspectors.

6. The payment of such a small registration fee, if cheerfully made with the purpose of aiding in the advancement of the interest of the profession and of assisting the State in the enforcement of the laws, would prove a forceful argument against the imposition by the State as a revenue measure of a larger annual license fee for the purpose of securing needed funds for its work, an imposition clearly within the police power of the State and by no means unlikely in a day of searching for every possible means for taxation.

7. The annual registration fee in medicine is being considered favorably in other states at the present time, for exactly the same reasons as those which have been mentioned. It would be a distinct glory for Illinois to have a place among the leaders in the movement, rather than to be a trailer in a forward step, clearly to come in the near future.

8. But above all, the medical profession boasts of its prime importance and of its parentage of other professions which, in some form or other, treat human ills. But these children of this profession have provided methods for the protection of their legal rights, which physicians might well study and profit by. They, at least, try to regulate practice. The medical profession seeks to guard the entrance to its privileges by laws regulating licensure, but is content to turn its licentiates loose, with no adequate provision for control, except where the individual becomes a stench in the nostrils and his deeds a scandal. The members of the profession claim a dignity, rightly due to them because of a long history of help to humanity through all the ages. But they do little to keep that dignity free from reproach. There is no profession, trade, or occupation in the whole commonwealth which so needs a house-cleaning as that of medicine. It is unnecessary to cite any illustrations. The facts are patent, familiar, notorious. Illinois has an excellent Medical Practice Act. It has a great and strong Department of State government, ready and willing to assist in the enforcement of the law. That Department asks for the necessary weapons with which to fight. It seeks a method of administration which has been proved forceful and effective in connection with other professions whose experience is worthy of consideration. It asks for an annual registration fee, in order to enable it to serve to the best of its ability this profession, whose Practice Act is placed in its charge for administration.

Gentlemen, in 1911, I think it was, a report of a survey made by a great foundation said that Illinois was the plague spot of medical education in the United States. Since that time, by rigid action of the State Board of Health, the number of recognized medical schools have been cut down from fourteen to five, and those five now are under the closest supervision to see that they live up to the Medical Practice Act.

So far as medical education is concerned, this State

has been cleaned up. Gentlemen, if this Society and the constituency you represent will stand by the Department of Registration and Education and give it the working tools with which to accomplish its purpose—and the most effective tool to accomplish what I suggested is a Registration Act—I promise you that it will not be very many years before Illinois will be pointed to proudly from all over this country as the place where medical education is no longer a plague spot, and the right to call one's self a physician of Illinois shall be an honor which will be respected wherever the name of physician is known. (Applause.)

DR. DEAL: We have things come up during the session right along, points of legislation which are hard for us to decide, and in which we have to call in a lot of men to assist us. Now, here is a very important proposition, and I hope it is discussed freely, because upon the sentiment expressed here and upon your vote will depend the action of the committee. It is a question of whether we want to fight a thing of this sort or whether you will agree to it and allow us to practically write this amendment through Dr. Shepardson. We can get together with him, if you so desire, or we can fight.

We want to discuss this freely, and I am going to ask Dr. Shepardson to remain and answer questions and let us try to settle this and decide what we want to do, so that the Legislative Committee will have some foundation upon which it may act.

DR. POOLE (of Lee): I move that this convention go on record as being in favor of the Medical Registration Act. (Seconded.)

DR. VANDERSLICE: I certainly came to this meeting very, very greatly opposed to a registration fee. I have not been converted, but I am not in distinct opposition to it. I believe that I am in a position where if five or six men who are in this gathering would say that they have given it sufficient time and study and that they would recommend it to us, I would vote yes.

I was at Dr. Shepardson's office this morning, and I heard the reasons given for the registration fee. Again I was not convinced that it was the right thing. But I have thought a good deal about it since I left that office this morning.

It seems to me that for us to pass this in the House of Delegates has no value whatever. As I look at the situation, the only way that we can come as a united front to the legislature next year is to refer this to a referendum, that the delegates here be instructed to take Dr. Shepardson's article and to place that, as fairly as it is possible for them to place it, before the constituent societies of this State Medical Society.

There must be no division. I would oppose this if I were not convinced that we must come up as a unit. Dr. Shepardson has made a beautiful argument, an argument that is hard to answer, and I believe if that is placed fairly and squarely before the county societies, and if the Medical Legislative Committees will recommend to the Medical Society of the State of Illinois that they stand in favor of registration, that

we can promise Dr. Shepardson that we, six thousand strong, will be behind him.

I would like to make an amendment to the motion of Dr. Poole to the effect that rather than place the House of Delegates with only fifty members here present, or possibly sixty, in the position of recommending this registration fee, that we get an honest statement from the rank and file of the medical profession in the State of Illinois. I will leave it to Dr. Shepardson if that wouldn't be a more valuable thing. (Seconded.)

DR. BETTS: According to Dr. VanDerslice, it would take another year before any action would be taken on this. Isn't that about it? Something must be done, it seems to me. Your Legislative Committee has asked you to do something here. They have explained it to you, and I think something should be done at the present time, before this House goes into session again. When the State legislature meets again and these bills are brought in, your Medical Society will not be in session, and it seems to me a definite stand one way or the other should be taken here and now.

DR. APFELBACH (Cook County): I have served on the Health Insurance Committee and on the Grievance Committee of the Chicago Medical Society, and from my experience I cannot see but that such steps which are in favor of organized medicine should be absolutely undertaken by this body. We are a representative body of all the medical societies of the State of Illinois, and I think if we consider this a step in advance in organized medicine, we ought to be able to vote on the matter.

Another point,—I think we need this legislation not alone to drive out quacks, but in order to organize ourselves more thoroughly in reference to health insurance. I am in favor of strengthening the Medical Society by an increase of dues. We can learn a good deal, as much as we may be opposed to labor unions and unionism, from their methods of organizing, and so protect ourselves against all kinds of fads that we find practicing the art of healing.

DR. HARDEN (Henderson County): I think that the time is opportune to decide this matter. The chairman of the Legislative Committee has come to us and recommended that we do something. As one of the previous speakers has said, if we leave it to a referendum vote, it may put the matter off six or twelve months. We are here to represent our constituents, and I, as a representative of Henderson County, can go back to my people and conscientiously say that this thing was asked and demanded and good reasons given, and I think that they would endorse any action which we, as their representatives, would take.

DR. BURDICK (Cook County): Ordinarily, I would be in favor of these suggestions, but we have had previous experience in starting a thing of this kind. The registration of automobiles was a minor registration in the beginning and amounted to nothing. I suppose you are all familiar with the fact that it has been shot up this past year and is going up for several years more to come. It is an ideally good thing if

some political party does not abuse it sometime in the future.

DR. BOWE: This is one of the most important questions that has come before this Society in the twenty years during which I have been a member, and it is along a plan of constructive legislation that has recently been enacted in our State. I wish to state to those assembled that I am a Democrat, and I believe in the initiative and referendum as general propositions. However, this is different. We are presumed to be an educated, constructive, thinking profession. These questions have occurred in the minds of most physicians who have studied and thought on the matter at all, and it is apparent that under the present methods we are not making progress, but are going backward. It is now time for concrete and constructive action. There never was a time in the history of the medical profession in this country to get that information as readily as at the present time. Think of the position that the American Medical Association occupies in the world. We are virtually the custodians of the safety of civilization. Here, coming before us, from men of constructive thought and experience, those who have given the matter deep and mature study, is a proposition that is effective. A referendum vote will defer this matter. It will confuse matters. It will open up an endless discussion that will get us to no definite conclusion. There will be accusations and incriminations and things of that character that will cripple it. There can be no question in the minds of thinking members of this Society as to the results of this proposition. To each individual it is but a small fee, and yet, as an economic proposition, it will put money into the hands of a department to make them effective.

It is eminently unfair to compare a proposition like automobile licensing to this. We are an organized profession and we are constantly before the people, and I feel personally to defer this matter would be wrong, knowing what I do of the progress and the organization of our state departments. This is not the thought of a day or of a week, and it is a vast step forward. I would regret greatly to see it deferred at this time.

Take, for instance, in some of the down state societies, where they have a meeting once or twice a year, or every few months, and have a few members present,—this matter might be considered superficially and the real facts and the great truths concerned in this matter may never reach the members. On the other hand, we who are here can give this careful thought, and I for one am willing to go before my constituency with a vote on this question. We are giving this our best thought, and the members of this House of Delegates are a class of members who think of these matters. It should be taken up, I personally feel, at this meeting and considered at this meeting, because if this matter is deferred, it will only give the opposition time to organize themselves and to disorganize our forces and remove our influence. A deferring of this question will mean that the information will be spread broadcast that there is dissension

and not co-operation in our ranks. Personally, I believe that it is now time to act on this matter. —This is no new matter to a great many of us. It has been threshed out pro and con for years.

DR. HUMISTON (Chicago): As a general proposition, I am very much in favor of what Dr. Shepardson has presented. As to the method of getting at it, I am not so sure. He very well pointed out that fourteen medical schools had been reduced to five because the quality of the five is so much better than the others that they were unable to keep up and live. Who paid the bill for that? Not the five.

We should look at this not from the standpoint of the selfish interests of the physicians and those who make their living practicing medicine, but should inquire who gets the benefit of this. Should we begin licensing the twelve thousand that are on record in the State of Illinois by finding those that can be found, or should the State see to it that the people of Illinois are protected against rascality?

It is a well known fact that the quacks and the irregulars make business for the ethical physician rather than take it away. The people who are to receive the benefit of any such registration list are the people of Illinois who are receiving the attention of these doctors and these practitioners and these quacks of the Christian Science variety. There is where the pay should come from.

These little pin-pricks of license fees for this and that and the other thing are ridiculous. We have to pay a license fee to carry a hypodermic, while the druggist can sell the same stuff without asking permission. I do not believe in this fining of a doctor a dollar a year in order that a quack shall be suppressed, and allowing us nothing to say about how this money shall be spent. If the doctors are going to pay the bill, then let them have something to say about who administers the law and see that their interests are looked out for. It is not to the interest of the doctors, but to the people of Illinois that this bill should be paid by an appropriation. The doctors should be registered, I grant you, but they should not be made to pay for it. (Applause.)

DR. KAHN (Cook Co.): I was very glad indeed to hear Dr. Shepardson. The way he read his paper was very excellent, certainly idealistic, that is, if the State of Illinois would guarantee that Dr. Shepardson would be the administrator of this legislation.

I believe the State of Illinois has a registration of pharmacists, has had it for a number of years, probably for the last fifteen years, costing a dollar and a half per year per registration, or possibly two dollars every two years.

I remember several years ago, the president of the Board of Pharmacy was in the city of Chicago. I reported several pharmacists who were practicing without a license. Nothing has been done about it. During the last eleven months they have had a new law, but they are still practicing without having registered as pharmacists.

Now, what guaranty will a physician have? It is not a question of the money, because it does not amount

to much to us individually. But just consider this—our state is like the weather, changing constantly politically. There will be about eighteen thousand dollars collected, and it will make a nice little fat job for somebody some day, because Dr. Shepardson is not going to be there all the time. If Dr. Shepardson is too honest, God knows how long he will last. (Applause.)

DR. STOTTS: While I am not familiar with the legal end of it, there is one thing which seems very evident to me. We have laws against these quacks, but the laws only say that the offender shall pay a certain sum. After he pays that sum, he can keep on breaking the law until such time as he is again fined. If the law were to state that any offender of the Medical Practice Act will be fined a certain sum and in addition a penal offense be attached to it, say, that he would receive a year's imprisonment, I would feel pretty sure that we would soon get rid of the quacks and the illegal practitioners.

DR. McCLANAHAN (Mercer): A local dentist told me the other day that the dentists of Illinois pay a registration fee annually. Is that true?

DR. SHEPARDSON: Every two years.

DR. McCLANAHAN: I said, "Do you like it?" He said, "It is a splendid way to keep these dishonest dentists who travel around out of business."

DR. SHEPARDSON: That is true not only of the dentists, but of every other profession and occupation. I will give you some illustrations on Thursday of what the department has been able to do without that fee that may have some bearing.

DR. BURDICK (Cook Co.): I would like to ask Dr. Shepardson what the position of the practitioner would be if he did not take out that license?

DR. SHEPARDSON: The dentists are given six months in which to pay their fee. The pharmacists are given an arrangement whereby if they pay at a certain time they are charged a certain amount; if they don't pay until later, that is increased.

DR. BURDICK (Cook Co.): Yes, but what would the position be?

DR. SHEPARDSON: As long as I am director of the department, he would be considered to be violating the law, and as long as I am head of the department, he will be penalized for it. No administrator would ever seek to create a hardship if a man was supposed to pay a fee July 1st and neglected to pay it until the fourth of July.

DR. BURDICK: I am not speaking of the Department. I am speaking about the patient when he comes in court and complains about a doctor. If he had not paid his fee, according to this he is an illegal practitioner, is he not?

DR. SHEPARDSON: Yes, sir.

DR. McCLANAHAN: Is it possible to register and license a man without charging a fee? Must you not charge him a fee if you register and license him?

DR. SHEPARDSON: If the amendment were made to the Medical Practice Act to that effect, of course, the registration would have to be charged from everybody.

DR. BOWE: I do not care to occupy so much time here, but I think we owe it to Dr. Shepardson and his department to decide this matter, and decide it favorably. I am no apologist for the new state of affairs in Illinois, but it certainly is a great step forward in constructive legislation and in constructive education, and there cannot be the mercenary spirit or the spirit of profit or gain charged against this movement. This comes to us from men of the highest ideals and the highest motives, and I feel that whether the pharmacists in Chicago get by without licenses or not has no bearing upon this question. A new era has come to us in the way not only of education, but in other things in Illinois, and we must at this time be guided by those who have given this matter thought and study. Dr. Shepardson, I assure you that the men in this House of Delegates who know the work of your department, of your ideals and of your interest in higher education and the betterment of the affairs pertaining to humanity feel that you are in earnest and are co-operating with us and that you will give us the best service that is possible.

I wish to say to those gentlemen who have dwelt so strongly upon the political side of this question and who are strongly for the referendum, this is still a government of the people and if you people think that these gentlemen are not giving you value received, we have an election every two years, and you can turn them out of office, select your own people who will give us the best that is coming to us.

I feel, ladies and gentlemen, that this is a great step forward, and as I said before, this is the psychological moment for the medical profession in America. We hold the safety of the world in our hands. We are in a position not only to go before Congress, but the various legislatures of this country and tell them what we want. Think of what the American Medical Association has done for the world today. Think of the great work that we are doing. If ever there was a grateful people we have them before us now, and now is the time. If this matter is postponed and we begin discussing it, and there are differences of opinion, those things will soon reach the people. They will have their influence upon the legislature, and we will have an emasculated or defeated bill. There can be no question about it. Our constituents have sent us here to act, and this is a time in the history of the world when men should act.

As Dr. Humiston said, it is an act in defense of the people, and I ask Dr. Humiston or any member of this profession when those who are guiding the interests of the American Medical Association and the medical profession in the United States and medical education have not acted wholly unselfishly and earnestly in the interests of the people.

One of the leading attorneys in the State of Illinois used to say to me—you are the strangest lot of people I ever saw. You are eternally and everlastingly trying to put yourselves out of business. In this matter, it is that same unselfish motive. No one can charge that there is a selfish step in this, and I feel that if we pass this war period without going before our Legis-

lature and going before the National Congress and asking for those things, that we will miss the opportunity of a lifetime and one that will probably never come to us again.

Where are the chiropractics, the osteopaths or the Christian Scientists that are acting as we are? We were the one great living, going, active unit in the defense of our country, and I wish to say right here that we must be in the future. Our whole function is going to change. Whatever our ideas may have been of preparedness in the past, they certainly must be modified now, and we must become an aggressive, living, active unit of defense, and an integral part of our system of national defense, ready, organized and co-operating with our Government.

While this is a radical step, I am for it, and I am ready to act now, and I hope this House of Delegates will do so, for just as sure as this goes down the country and begins to be discussed and procrastination takes place, it will lose its value. (Applause.)

DR. DOAN: I did not think that I would say anything, but there are two things that have been brought up that I would like this House of Delegates to consider before this is passed. One of them is this,—each man here represents his county, as has been stated by Dr. Bowe. I am willing to risk my chance of being the delegate next year by going on record here the way I believe to be correct.

Dr. VanDerslice said that he had not studied this. Gentlemen, we have had a man who has been the secretary of the Legislative Department who has worked for us, who has studied this thing, and he has come and asked that we do this thing, and it seems to me that, taking it up in the manner that he has taken it up, we would certainly be perfectly satisfied with the result, should he be the man to serve in this place next year.

As for the political part of it, any good law in the hands of a bad man becomes a bad law. A bad law in the hands of a good man is not necessarily a good law, but it will be better in the hands of a good man than in the hands of a bad man, and I take it for granted that we will always have a good man in the place that Dr. Shepardson occupies. I thank you. (Applause.)

DR. GLENN (Cook Co.): Of course, you know what my stand is on this, those that heard the paper I read this afternoon. I am a member of the Grievance Committee of the Chicago Medical Society. We have studied the quack question and we have met many times with Dr. Shepardson, and he has convinced us, the committee unanimously, long ago that this registration of physicians is the proper thing. We find that we need it in the co-operation of our societies in helping to get rid of the quack. It seems to me that it would be proper for our societies to place every man in the position where he can become known to the authorities. I think that is the biggest point Dr. Shepardson has made.

DR. SHEPARDSON: Gentlemen, I would like to say one or two other things. In the first place, some of the members refer to me as "doctor." Fortunately,

or unfortunately, my father was a Baptist minister, having the degree of Doctor of Divinity, and when I was five years old I became "Doc'd" and I carried that title absolutely without a right until Yale University conferred upon me the privilege of being known as a doctor, not of medicine, however, but of philosophy.

I came to this position at Governor Lowden's request last July without knowing very much about the administration of the laws of this State. It did not take me long to find that some of the trades and professions had utilized a very effective bit of machinery for their own advancement, and to my intense surprise, that profession which I supposed was best organized, most powerful, most effective, had not used a very simple device which has proved itself by experiment.

Gentlemen, I believe it is based on two things,—any man to be a physician in Illinois must spend long years of study. He must spend a lot of money, and when, after four or five years of painstaking effort he prepares himself for service in his profession and to become a member of the profession, I believe that that man has a right to some protection under the law, from the incompetent who without such training sets himself up on an equal plane with the man who has had that training. (Applause.)

This profession rightly claims primacy among all those professions which men follow. Should not this profession, then, have a deep-seated interest in those people, human beings, over whose lives they have care, over whose injuries and sicknesses they toil that they may alleviate pain and suffering?

In all the great states where attempts are being made to regulate trade and professions, and rightly so, the same rule is followed, that the trade or profession pays a small registration fee in order that two things may be accomplished—first, that it itself may be protected from the unworthy; and second that the interests of the people dear to it may also be protected.

If you will back this department, I believe we will show you results.

Now, someone said there might be some graft in this. Every dollar, ladies and gentlemen, that belongs to the State of Illinois now goes into the Treasury of this State. (Applause.) The Department of Registration and Education cannot buy a postage stamp until it makes requisition for it, has it approved by the Department of Public Works and Buildings, has it approved by the Department of Finance, has it approved by the Administrative Auditor, has it signed by the Governor.

It would be utterly impossible for anybody to get any graft on those fees. Gentlemen, it doesn't make any difference who the administrator is, be he Republican or Democrat. The success of the Civil Administrative Code, as I shall show you Thursday, depends to a large degree upon the personnel of the officers. The success of the Illinois State Medical Society depends upon personnel. The success of your local society depends upon that. The success of everything where strong men work depends upon the honesty and

integrity of the official who is placed in charge of that work.

Gentlemen, give us this weapon, give us this help, and I assure you that in every single county in this State it will redound to your personal benefit, if you look at the pocketbook, and it will redound immeasurably to the dignity of this profession and for the honor and glory of this great commonwealth. (Applause.)

DR. O'BYRNE: I should like to make an amendment, Mr. Chairman, that this be made a special order of business for Thursday morning. (Amendment seconded.)

My reason is this—I made the proposition to a gentleman in Chicago whom I regard very highly, and he said "I never decide upon anything without sleeping over it." Dr. Shepardson has carried us off our feet and made us ready to take a very radical step. I, for one, would like to sleep over the proposition. I would like to discuss it with my fellow-delegates before voting upon it. Personally I revolt against it a little bit, and I think that we would all come to a more definite conclusion in our minds if we would take a little time to think it over and discuss it among ourselves. As to the referendum, I believe that is not practical. We took up the question of the change of the constitution in the Cook County Medical Society, and I got just fifteen people to vote on the change in our constitution that affected over three thousand people. Your referendum is not going to be very satisfactory, and I think this House of Delegates should settle it. I believe we should not be carried away by the glowing oratory of Dr. Shepardson until we have had time to discuss it and digest it in our minds.

DR. STEWART: It surprises me very much that Dr. O'Byrne wants to sleep over a question of a dollar and a half. I don't mind ordinarily sleeping over a proposition, but it seems to me that this is so minor and small and insignificant to each member, and we all know the value of it. Whether Dr. William Shepardson were here or not, it seems to me that everyone should appreciate the great value of registration which should be made legal and have something back of it. I do not think it is necessary to take the time to discuss this Thursday morning. I think we will have enough business Thursday morning. Many of us want to get away, and I think it is rather foolish to spend two or three days' time here when we have plenty of time tonight to decide a question of this kind. If it was a question involving several hundred dollars or several thousand dollars it would be a different proposition, but it seems to me the matter is small. I think it is a splendid thing and I do not see why we should take any more time on it.

DR. O'BYRNE: Dr. Stewart well knows that it is not the amount of money involved.

DR. NELSON: Would the irregular practitioner be obliged to send in his fee the same as the regular practitioner? I should also like to know in what way it would affect the quack practice. Would it make all of our quacks regularly registered physicians? Could they not send in their registration fee the same as we

do? Although, after listening to Dr. Shepardson's remarks, I have been impressed with the fact that this would be a good thing for the medical profession at large, these few questions came to my mind.

DR. LYNCH: It seems to me that the whole objection revolves on the fact that some fellow's dollar may be misappropriated or manhandled. Now, why is it necessary to pay a fee at all to compel the physicians of this State to register once a year? When we get out of school, the State compels us to take out a license for the practice of medicine. Would the paying of a fee prevent the quacks from going on in the same way in which they have in the past? Has not the State sufficient power, has not it law enough to compel a registration of every physician who practices in the state at least once a year without paying this fee? Or, will the paying of the fee abolish quackery?

The audience calls for the Chairman to put the question.

The Chairman: We have before us the original motion of Dr. Poole that the convention go on record as being in favor of the Medical Registration Act; Dr. VanDerslice's amendment that the matter be submitted to a referendum of the medical profession of the State of Illinois, and then Dr. O'Byrne's amendment that the decision of this matter be a special order of business on Thursday morning.

Each of the amendments were put to a vote and lost. The question then reverted to the original motion, that the convention go on record as being in favor of the Medical Registration Act, which was carried. (Applause.)

THE CHAIRMAN: We will now hear from our Committee on Public Policy.

No one was present to present the report. It was given to the reporter on the following day and she was asked to insert it in the proceedings.

(Supposed to have been read by title Wednesday night in regular order.)

REPORT OF COMMITTEE ON PUBLIC POLICY.

To the Delegates, Ladies and Gentlemen:

The past year has been so full of national issues which have engaged the attention of officials of our Society in their endeavors to co-operate in government work that very little has been attempted along the line of our usual activities. Hence, about the only feature requiring a report at this time is our annual Health Sunday.

Springfield, Illinois, was selected for the observance of Health Sunday this year, and arrangements were begun early in the year to secure the largest possible number of churches and the best available speakers for the occasion. It was unfortunate that a conference for the selection of pastorates rendered several churches unavailable, while others were for the time being without a pastor; but a goodly number, some twenty, were obtained, nevertheless, and we were happy to secure the First Presbyterian Church for our mass-meeting in the evening.

The fact that the Government decreed May 19 as Red Cross Sunday in all the churches was very timely, as this was an especially appropriate subject to incorporate with our own special lectures, and every speaker was requested to give due attention to this feature.

Your Chairman is pleased to report that considerable success attended her efforts to secure noteworthy speakers, some of whom have accepted the appointments at a great sacrifice of time from important duties, and at considerable personal expense.

It is hoped that Health Sunday in Springfield has met the expectations of our members. No efforts were spared to do our best. But if the desire of a great number of the delegates and members is carried out next year, and the event takes place in Chicago, it is safe to say that all previous records will be surpassed.

Respectfully submitted,
SADIE BAY ADAIR,
Chairman, Public Policy Committee.

The same is true of the report of Special Committee on Health Insurance.

REPORT OF COMMITTEE ON HEALTH INSURANCE.

The committee would like to inform the house of delegates of this convention that the special committee appointed about two years ago to investigate proposed Health Insurance Legislation, is still of the same opinion as to the non-feasibility of the adoption of Public Health Insurance in this State. The report made at the last meeting was published in the ILLINOIS MEDICAL JOURNAL and reprinted in many other publications, and attracted much attention all over the United States; great demands were made upon the committee for copies of this report; requests came from Massachusetts, Maine, New York, California, Ohio and many other states where Health Insurance Laws were contemplated.

The facts were put squarely to the profession in order to show them all the different phases of the proposition; to set forth all the objections to Public Health Insurance would require a voluminous document, our intention here is only to give a brief synopsis of a few of the most potent objections to our profession:

1. It is UN-AMERICAN. Americanism means that the individual amounts to something: Paternalism that the individual is non-important but that the State is all important. Even a beneficent paternalism is harmful because it destroys individualism and discourages thrift.

2. Former U. S. Ambassador Gerard says: "That the much admired Working Men's Insurance in Germany against sickness, unemployment and old age, has tied the worker to his job as the surf of old was tied to the soil. The government disposes of his wages to so large an extent that he has not enough left to strike out for himself, and if by any chance he does break loose, he loses all his past payments." Again Gerard notes that more than 55 per cent of the

families in Berlin live in a single room and adds the biting and wholly accurate comment: "The Germans are taken care of and educated very much in the same way that the authorities here (in America) look after the inmates of a poor house or penitentiary." A statement which is the sad but literal truth. The German people are not free politically, industrially, intellectually, or in any other way. The German government molds the minds, directs the energies, and even spends the income of its subjects. The Ambassador in reviewing this pernicious system in Germany by which masses are kept in subjugation by the classes says that an economic revolt is needed to free Germany.

- 3 Compulsory health insurance for workers is based upon the theory that they are unable to look after their own interests and the State must interpose its authority and wisdom and assume the relationship of parent and guardian. There is something in the very suggestion of their relationship and this policy that is repugnant to free-born citizens because it is at variance with our concepts of voluntary institutions and individual freedom. To compel a citizen, against his will, to enter into any insurance contract and impose upon him the burden of paying the premium in whole or in part is un-American and dangerous to civil liberty.

4. In the consideration of Public Health Insurance our first thought should be "is it a good thing for the wage earner and is it predicated upon necessity?" The demand for this legislation has not come from representatives of labor, whether organized or not, but chiefly from those who are not the representatives of wage earners' interests. It is extremely significant that this movement, which primarily concerns wage earners and their dependents, should be strongly opposed by the American Federation of Labor.

5. The present system, whereby the poor are treated by the most efficient medical men, is far better than the 10-20-30 cent inefficient type of medical service furnished by physicians in communities where health insurance obtains.

6. The argument that "poverty is the cause of sickness and not sickness the cause of poverty," as many of our economists would lead us to believe, is not true, and the mere makeshift of paying a small indemnity in case of illness, and "broking" the medical service—which would tend to do away with competition in the profession—would only add to the condition of poverty by shifting the burden of paying a living wage and giving steady employment from the place where it belongs.

According to the report of the Fabian Society of the city of London the fundamental needs of the poor are essentially want of sufficient wage, want of nourishment, want of warm clothing, want of decent housing, and want of rest.

7. Only a very small part of the population is without needed medical care, and we deny that any worthy individual is suffering from the want of medical care—so-called surveys made by medically un-

qualified (therefore incompetent persons) to the contrary notwithstanding.

8. No health insurance legislation should be enacted before we rectify the unfairness of the present Compensation Law. State insurance for accident compensation should be tried out before we attempt to enact such laws.

9. Health insurance is not working out satisfactorily in Germany. In England it is charged with giving inefficient and unsatisfactory service to the insured.

10. Under all the schemes for compulsory health insurance as yet proposed the persons most needing the insurance will not get it. Those who are out of work, except on account of illness, longer than the extension of one week for each four weeks during the previous 26 weeks of paid-up assessments; those who are unable to get into the voluntary insurance societies because they are unable to pass the medical examination, and those who are not insured because they are unable to get work on account of their age; alcoholism, shiftlessness, general incompetency, or any other disabling condition which prevents them from being employed in times of financial distress or panic, these unfortunate conditions will be magnified manifold.

11. The mortality is not reduced under Health Insurance. In 1912 the death rate in Germany was 15.6 per thousand of population. In Austria, 20.5; in Hungary, 23.3; in the same year in Australia the rate was 11.2; in Belgium, 14.2; in Denmark, 13; in the Netherlands, 12.3; in New Zealand, 8.9; in Sweden, 14.2; in Switzerland, 14.1; in all of these countries, with no compulsory Health Insurance Laws in effect the mortality rate was much lower than in Germany, Austria or Hungary, where Health Insurance Laws have been in force periods ranging 21 to 28 years. In the United States the mortality rate in 1912 was 13.9 per thousand population, and in 1915 it was reduced to 13.5; this low rate was obtained in spite of the fact that the ordinary tendency to sickness is aggravated by the great variety of climate peculiar to the United States; by the diversity of races represented in its population and by the fact that United States has kept its doors open to millions of emigrants, who were unused to our change in climate and the additional fact that many of them came to our shores physically weakened by toil and privations in their home land.

12. From the Health Insurance standpoint the scheme is inadequate in that it successfully avoids giving medical service except to the unusually healthy. You cannot use the healthiest lives in a community and give them selected service on small pay and think that you are doing anything for the community, because a health insurance scheme must take in all lives, the sick as well as the healthy, and must give good service for all.

13. The lot of the casual laborer would be grievously hard. It is axiomatic that the less a man earns per day the fewer days he works. Many cannot spare the amount necessary to pay the premiums continuously, in order to receive the benefits. Therefore, those who are unable on account of general incom-

petency, previous illness or any other disabling condition, will be left outside the operation of this bill. The proposed health insurance legislation does not make provision for the very poor as such plans include the steady workers (a picked group), and not those who most need the insurance.

Moreover, casual worker, the physically defective, and the wage earner above the insurable age, who at present are able to provide for their own needs by at least part time work, would by this bill be forced into voluntary idleness and consequent poverty.

14. Selection of employes would cease to be based upon efficiency and value to the employer, as at the present time, but upon the state of health and presumptive continuance of this good health. Conversely, when this state of robust health diminished in the employe, the employer would as a matter of self-protection be forced to replace this man with a stronger one.

15. It would be a barrier for the boys returning from the front, it would be unpatriotic to pass any legislation that would in any way oppose their best interests and health insurance would jeopardize the interest of the incapacitated in the matter of securing employment because no firm or carrier would feel justified in employing a risk that would not be profitable to them.

16. The United States Commission on Industrial Relations estimated that wage earners in the United States lost an average of nine working days annually through sickness. The American Association for labor legislation, the chief advocate of Health Insurance Laws in America, estimated in 1911, that wage earners in the United States experienced an average of sickness disability of 8.5 days annually. The Metropolitan Life Insurance Company, in a sickness survey in North Carolina in 1916, disclosed an annual sickness disability of 7.6 working days for males, and 10.2 for females; its survey made in 1915 in Rochester, N. Y., showed a sickness disability rate of 7 working days per year for males, and 7.7 for females. Its survey work made in 1916 in Boston indicated an annual loss of 6.5 working days for both males and females. The Social Insurance Commission of California, in its report of January, 1917, states that, among wage earners in that state, an average of 6 days is lost each year because of sickness.

In Germany in 1913 after Health Insurance Laws had been in effect 29 years, sickness disability for each insured member averages 9.19 days annually. In Austria the same year after Health Insurance Laws have been in effect 24 years, the average was 9.45 days. Because of the war later statistics are unavailable.

Health insurance would create much malingering, Sixty per cent of all cases coming before the Insurance Commission of Germany and England are disagreements based upon malingering. Likewise, a great percentage of cases before the Industrial Board in this State are for the determination of continued benefits upon this basis.

17. The adoption of paternalistic health insurance will destroy in the citizen individual initiative and the

incentive to thrift and industry. There will be no longer an incentive for the individual to employ the genius and talents with which he is endowed, to exercise his initiative, to force ahead and better his own condition, stimulated by the thought that he is to enjoy to the fullest extent the reward of his own efforts. If the State is to provide for them in sickness, protect them from misfortune and distress so long as the individual lives, what becomes of that in-born ambition lodged in the heart of every human being to rise above his fellows and if possible to succeed where others fail?

18. The cost of operation will be enormous, and therefore, against the best interests of the taxpayer, the employer and the insured. It is a matter of record that the administration of such funds, as demonstrated by the Associated Charities and kindred organizations, costs over half the fund. Under such a scheme as this compulsory health bill, the tax burden would increase tremendously. Let us see what this law would cost the State of Illinois.

At \$24 per capita per year, which is the lowest estimate yet made, Illinois' annual bill for State provided sickness insurance for its 2,400,000 workers of all kinds would be \$57,600,000. Forty per cent of this, amounting to \$23,040,000, would have to be paid by employers who would increase the cost of commodities, which means that in the end the public would have to pay the increased tax; \$23,040,000 will have to be paid by the workers themselves and \$11,520,000 will be paid out of the State treasury.

This increase will be on the State tax alone, but it would not end there. The whole cost to every township, city, town, village and county must also be paid by increased taxes, and after the taxpayer has figured out just how much the whole tax amounts to, he can, if he is an employer, add on 40 per cent for the cost of the insurance of his own employees. In Illinois the employer taxpayer will find the sum to be paid by them is approximately \$40,000,000. Conditions in Illinois are not such as to warrant this huge expenditure.

19. With such a large part of the population joined together into societies or funds for their own pecuniary benefit, as the employes and employers would be under the Standard Bill, it would be a dangerous thing for the State if they should be united as a political party under an unscrupulous boss. The rest of the State would be compelled to yield to them in everything.

20. It is not demanded by the employes, the employers, or by the physicians who will be compelled to work under its provisions. On the contrary, the employes, as represented by organized labor, the employers, as represented by the National Association of Manufacturers, the Real Estate Owners' Association, The New York Chamber of Commerce, the Board of Trade and Transportation, and others—a combination of both employes and employers, as represented by the National Civic Federation; the physicians, as represented by the largest and about 101 other county medical societies in the State of Illi-

nois; the New York Medical Society, and even the Social Insurance Commission of the State of Massachusetts, have all gone on record as being squarely in opposition to the "Standard Bill."

21. While the employer has a great responsibility for occupational diseases it is unfair to compel him to pay 40 per cent of the cost of the care and treatment of his employes suffering from sickness due to extrinsic causes when contracted while not at work. The employer's responsibility should only hold during working hours. Venereal diseases and injuries received while committing a misdemeanor or felony should not be held against him.

22. It would bring about compulsory medical attendance and do away with that personal and confidential relationship between doctor and patient, taking from the sick one that confidence, trust and friendship which is such an important part in the proper treatment of diseases. It is this element which makes the practice of medicine a profession and not a business. It is not wholly the dose of medicine that cures the patient, but success is frequently in a considerable measure due to the confidence the patient has in the family physician. This feeling of confidence, trust and personal relationship between doctor and patient, so essential in promoting restoration to health, should not and must not be disturbed by legislation.

23. Under the proposed scheme the insurance carrier has the choice of making the arrangements for the medical attendance and treatment of the sick wage earner either with the physicians on the panels, if there be any, or with salaried physicians, either with or without free choice of the physician by the sick wage earner, and it is easy to foresee which the employers (for they will dominate the carriers) will choose—the salaried physicians because they can get them more cheaply.

24. It is the universal experience in medical practice that contract work by the physician is uniformly detrimental to the development of good service and of science. The Standard Bill is simply legislation of the well-known opprobrious and malodorous lodge practice.

25. Under the provisions of the Standard Bill the physician will be compelled to hire himself out to the insurance carrier on the carrier's terms or he can and undoubtedly will have his practice almost or entirely taken away from him and given to one of the salaried physicians.

26. We feel that medicine should not be made to bear the brunt of this new experiment in paternalistic government, nor should we permit such legislation to socialize medicine before the public is ready to adopt a complete socialistic form of government.

27. Why should the profession be taken from the hands of the physician and a price be put upon his services when it is not the case in any other employment? In fact, the trade unions are making their own wage standards and popular opinion is bearing them out in it. A lay person should have the same right to expect state-provided legal services as he has to

demand such medical treatment. If there were a Bureau of Justice established where, in criminal or civil cases, citizens were entitled to the best legal defense at the expense of the tax payer, the legal profession would storm the halls of the Legislature until such practice was declared illegal. But the long-suffering medical profession, from a habit of atavistic submission, meekly kneels down to receive any added burdens which official zeal or personal ambition sees fit to impose.

28. Honorable Francis Neilson, ex-member of British Parliament, and a student of political economy, speaking before the Chicgo Medical Society, December, 1916, said that social insurance in England is a dismal failure; that it was copied after the German system and that Germany's system is a failure. He says that one has but to investigate all conditions to prove it.

Under the laws the people are presumably entitled to the best medical service that money can buy but as a matter of fact they are getting very inferior service. *Committee and Sub-Committee on Health Insurance, Illinois State Medical Society.*

DR. CHAS. J. WHALEN, *Chairman*,
DR. J. R. BALLINGER, *Secretary*,
DR. E. W. FIEGENBAUM,
DR. GEORGE APFELBACH,
DR. S. V. BALDERSTON,
DR. E. H. OCHSNER,
DR. C. A. HERCULES,
DR. W. D. CHAPMAN.

The report of the Medico-Legal Committee was read. It was accepted.

REPORT OF THE MEDICO-LEGAL COMMITTEE.

To the House of Delegates:

Your Committee begs leave to report the following: On January 2, 1918, a report was made and published in the February issue of the JOURNAL giving a summary of the previous month's work.

Since that report there have been disposed of fifteen cases, as follows:

- Five in Circuit Court of Cook County.
- Six in Superior Court of Cook County.
- Four in Circuit Courts outside of Cook County.

There have been started since January 2 ten new suits, as follows:

- Five in Circuit Court of Cook County.
- Two in Superior Court of Cook County.
- Three in Circuit Courts outside of Cook County.

There were pending May 1, 1917, sixty-three cases, as follows:

- Appellate Court, three cases.
- Supreme Court, one case.
- Circuit Court of Cook County, fifteen cases.
- Superior Court of Cook County, twenty-four cases.
- Circuit Courts outside of Cook County, nineteen cases.
- Municipal Court of Chicago, one case.

Total, sixty-three.

May 1, 1917, to May 1, 1918, there were started

thirteen cases outside Cook County and twelve cases in Cook County, a total of twenty-five suits started within the last year. The first time in the history of the committee that the State has outdone Cook County.

Since May 1, 1917, there have been disposed of thirty-one suits, as follows:

- Three in Appellate Court.
- One in Supreme Court.
- One in Municipal Court of Chicago.
- Ten in Courts outside Cook County.
- Fifteen in Courts of Cook County.
- One in Court rejected.

Total of thirty-one.

Of the thirty-one disposed of cases, seven were of those started since May 1, 1917. Three down state and three in Cook County, a fifty-fifty break.

One case from down state rejected, it being an unauthorized post mortem.

The committee has handled during the current year eighty-eight cases.

At present there are pending, May 1:

Twenty-one outside Cook County.

Thirty-six in Circuit and Superior Courts of Cook County.

Total of fifty-seven.

Besides the suits brought there have been about sixty-five claims or threats reported to the committee; some of these claims may yet develop into suits.

Of the thirty-one disposed of cases, two in the Appellate Court were won for the defendant.

One remanded for new trial and the one in the Supreme Court lost. Of the rest all but one were won for defendant except one, and in that there was a verdict for \$500, and an appeal is in process at present.

Since May 1 one other case that is listed as pending has been tried and a verdict of \$500 rendered against the doctor. If a new trial is not granted in this case it also will be appealed.

The above report may sound rosy but some cases are lost just the same. In one case just recently tried, and defended by one of the Casualty Companies, a verdict was rendered against the defendant for \$2,500; on motion a new trial was granted. This case is not listed among ours because we had nothing to do with the defense, at the same time the defense in this case was good and could not be criticised.

The expense of the committee will be given in the Treasurer's report.

C. B. KING, *Chairman*.

The report of the Committee on Medical Education was called for, but no one was present to present it.

THE CHAIRMAN: It is customary to appoint a Committee on Resolutions. I will appoint Dr. Charles J. Whalen, Dr. Burdick, Dr. H. D. Junkin, Dr. Grinstead and Dr. Doan.

DR. VANDERSLICE: I move you that it is the sense of the House of Delegates that there will be an additional fee of fifty cents charged to the County Society

for each member, and this fifty cents shall be used as a fund which shall be known as the Legislative Committee fund. (Seconded and carried.)

DR. VANDERSLICE: I propose the following change in the constitution,—to Article 6 add Section V to read:

"During the period of the war, there shall be an alternate councilor elected for each councilor, the alternate councilor to act only in case the councilor from that district be called to the service."

I move you that there should be a special committee appointed by the President Thursday afternoon which shall be known as the War Committee of the Illinois State Medical Society, following out the recommendations made by the meeting of the Secretaries of the State Societies at the headquarters April 30th. (Seconded.) (Carried.)

If a committee were appointed now, it would naturally go out of existence with the term of office of the president who appointed that committee. Dr. Coolley's term of office will expire on Thursday afternoon, and so as to give permanency to the committee, it has seemed advisable that the president-elect who will take his seat on Thursday appoint the committee. so Dr. Fiegenbaum, I take it, will appoint that committee on Thursday. The advisability of having an appointed rather than an elected committee is that in case the man on the committee is called to the colors, the president could at any time fill the committee. There was no reflection whatever on this president in suggesting that the president-elect make these appointments, you see.

DR. PENCE: I have a notice of a change in the constitution and by-laws to offer. I have been notified by the Post Office Department that we have not been complying with the law. I am afraid the editor may get in jail, and I want the constitution and by-laws amended so as to keep me out. The Post Office demands that we state in the constitution and by-laws, in order to get the JOURNAL through as second class mail, that the subscription price be a specific amount. Therefore, the change which I wish to propose Thursday morning would be, in addition to Article 10 of the Constitution, which reads:

"Funds should be raised by equal per capita assessment on each component society. The amount of the assessment shall be fixed by the House of Delegates, but shall not be less than two dollars fifty cents per capita per annum."

To that I want to add:

"One dollar fifty of which is for the annual subscription to the ILLINOIS MEDICAL JOURNAL. The annual subscription price of the ILLINOIS MEDICAL JOURNAL for non-members shall be two dollars."

We are allowed, within the law, to have a subscription price for members and another subscription price not more than fifty per cent. larger for non-members.

Under the by-laws, Chapter 9 reads:

"The Secretary or Treasurer of the component society shall deliver to each member upon the payment of annual dues a receipt on the blank furnished by the

Secretary of this Society to which should be attached, etc., etc."

After the word "society" we want to add:

"Which blank receipt shall state that one dollar and fifty cents of the per capita tax is for the annual subscription to the ILLINOIS MEDICAL JOURNAL."

I would like to say, in support of the change, that it will simply mean a change in bookkeeping. The change is demanded by the postal authorities. They say we are not complying with the law, and I really expected to get in trouble over it before this time.

There is no difference in the way the money is handled; it is simply a change in bookkeeping. The amount might have been made to read one dollar instead of one fifty.

DR. DOAN: I have a resolution to present which may possibly be considered an amendment to the constitution, and for that reason I will read it tonight:

BELIEVING it a patriotic duty and feeling that many members of the Society are either now enlisted or will enlist in the Medical Reserve Corps of the National Army, be it

Resolved by the House of Delegates that every member of the Society in good standing at the time of entering the service has his annual dues complementarily returned to him during this service, permitting him to be a member during his service in the Medical Reserve Corps.

Upon motion duly made and seconded, the House of Delegates adjourned to meet again on Thursday morning.

ADJOURNMENT.

HOUSE OF DELEGATES.

Thursday, May 23, 1918, 10 A. M.

The House of Delegates convened in the Masonic Temple, Springfield, at ten o'clock A. M., Dr. Elmer B. Coolley presiding, Thursday, May 23, 1918.

THE CHAIRMAN: The Secretary will proceed with the roll call.

The roll was called and a quorum found to be present.

THE CHAIRMAN: We will now hear the reading of the minutes of the last meeting.

They were approved as read.

The next order of business was the election of officers, and a motion was made, duly seconded and carried, that in view of the press of other business and the shortness of time allowed for the session, nomination speeches be dispensed with.

Those nominated for president-elect were: Dr. J. W. VanDerslice of Chicago, and Dr. Andrew M. Harvey. Dr. VanDerslice was elected, polling fifty-nine votes against Dr. Harvey's twenty-nine. A motion was then made, duly seconded and carried that the election be made unanimous.

There was only one nomination for the first vice-presidency, that of Dr. H. C. Blankmeyer of Springfield, and he was unanimously elected.

Dr. Clara Seippel was nominated for second vice-president and elected unanimously.

The nominations for secretary were: Dr. W. H. Gilmore, of Mt. Vernon, and Dr. Edmonton, of Minonk. Dr. Gilmore received sixty-four votes and Dr. Edmonton twenty-three. Dr. Gilmore was declared elected. A motion was made to declare Dr. Gilmore's election unanimous, which was seconded and carried.

Dr. A. J. Markley was the only nominee for treasurer, and he was unanimously elected.

The councilors for the districts where vacancies occurred were then elected.

The nominees for the Third District were Dr. John S. Nagel of Chicago, and Dr. Pence of Chicago. Dr. Nagel received forty votes and Dr. Pence fifty. Dr. Pence was declared elected, and a motion was made, seconded, and carried, that the election be declared unanimous.

Dr. H. P. Beirne of Quincy was the only nominee for the councilorship of the Sixth District, and was unanimously elected.

Dr. C. W. Lillie of E. St. Louis was the only nominee for the councilorship of the Ninth District, and was unanimously elected.

THE CHAIRMAN: Nominations for councilor to fill out the unexpired term of Dr. Arp, deceased, are now in order.

There was only one nominee for the councilorship, and Dr. T. W. Gillespie was unanimously elected to fill out the unexpired term of Dr. Arp.

THE CHAIRMAN: We shall now proceed to elect six delegates to the American Medical Association.

Those nominated were:

Dr. R. J. Coultas, of Mattoon; Dr. William L. Noble, of Chicago; Dr. C. C. O'Byrne, of Chicago; Dr. A. M. Harvey, of Cook County; Dr. C. E. Humiston, of Cook County; Dr. Ludwig Hektoen, Chicago; Dr. T. D. Doan, of Macoupin; Dr. C. W. Leigh, of Chicago; Dr. E. B. Coolley, of Danville.

An argument ensued as to whether or not each man present had to vote for six of the candidates. The Chair ruled that no man could vote for more than six candidates, but any one not wishing to vote for six could vote for less than six, each one on the ballot receiving one vote.

A motion was made, seconded and carried that the convention proceed with its regular business while the ballots were being counted.

DR. CUNNINGHAM: I would like to read you a little telegram that I have received from the president of our Chamber of Commerce of Rock Island. (Reads.)

We take pride in our town. Our town is well able to handle this Society. It is adjacent, as you know, to the cantonment at Camp Grant. I believe we could spend three days in Rockford, which would be enjoyable.

THE CHAIRMAN: One of the gentlemen asks what the hotel facilities are.

DR. CUNNINGHAM: As you know, we are crowded right now, but we hope by the time this Society will meet that we will be in better shape. We are now completing an addition to the Nelson Hotel that will

accommodate two hundred extra people, or rather, that will add two hundred extra rooms, which ought to accommodate three hundred more people. We have also a hotel that is in course of construction now that will accommodate a hundred and fifty.

DR. COOPER (Peoria): Peoria would like to have the Society next year, and while I don't have any telegram from our Association of Commerce, I have a member of our Association of Commerce, and, with the consent of the House of Delegates, I will have him present the invitation of Peoria. Mr. Price, of our Association of Commerce.

MR. PRICE: Ladies and Gentlemen:—To invite the State Medical Society to Peoria does not necessitate telling you anything about our accommodations, except to suggest this, that since you were there some five years ago we have added three hundred rooms to our Jefferson Hotel, which will help you considerably.

It is more important than it ordinarily would be for you to consider a place of meeting, because during the war it is highly important that you meet where you can get the best possible attendance. The geographical location of Peoria makes that the logical place.

There is another point, however, with relation to our sister city on the north,—it is interesting to visit a cantonment. In the past year, in attending different conventions, I have visited the one at Rockford once, at Great Lakes twice, at Fort Sheridan once, at Chattanooga once and at Atlanta once, and I presume all of you have done as well or better than that. But the particular purpose of a convention is not to visit a point of interest, but at this time the particular purpose of your Society is to meet where it can do the very best work. Because of that, I am very glad to welcome you to Peoria, with a confidence that you will come, bearing to you the invitation from our Association of Commerce which includes three affiliated organizations, of which the Peoria Medical Society is one, because we believe the Community Health Department, which is the medical profession, should be represented in that general community body. I hope, gentlemen, we may have the pleasure of meeting you in Peoria next year.

DR. PECK: I want to extend an invitation to the physicians of the House of Delegates and the physicians of the State of Illinois to attend the meeting of the Tri-State District Medical Society in Madison in August, the week of the twentieth.

This is the third annual meeting. Last year, among the speakers was our honored president, Dr. Coolley; Dr. Ochsner, of Chicago; Dr. Pusey, and a number of other men, as well as the Governor of Illinois and the Governor of Iowa. We considered that we had a very splendid meeting.

The features of the Tri-State District Medical Society are clinics and scientific addresses, the sessions lasting for three days. Madison is a beautiful place,—you all know that, the city of lakes. There is no prettier place anywhere for a medical meeting than Madison, Wis.

This year, if the war does not interfere, we have

had the promise of Dr. Alvey, of New York; Dr. Bloodgood of Johns Hopkins; Dr. Bird, who will conduct a clinic at the State Institution of Wisconsin at Winona, a mental clinic. We also have a very nice letter from our Surgeon General of the United States army saying that if it was possible he would be there, but he was not sure but that he might be in France. We have a lot of other people that we are lining up for this meeting, and we want you to come.

The ballots were collected containing the votes of the members in reference to the meeting place next year. The vote was found to be sixty-nine to fourteen in favor of Peoria.

THE CHAIRMAN: That brings us to unfinished business. Is there any unfinished business to come before this body?

DR. LILLIE: There were two amendments offered, and they might be taken up and disposed of at this time.

DR. PENCE: I gave notice of a proposed change in the Constitution and By-Laws. Both changes were proposed to be made in order to comply with the postal regulations. The first change proposed is in Article 10 of the Constitution. Article 10 of the Constitution now reads:

"Funds shall be raised by an equal per capita assessment on each component society. The amount of the assessment shall be fixed by the House of Delegates and shall not be less than two dollars fifty cents per capita per annum."

The proposed change is to read:

"Funds shall be raised by an equal per capita assessment on each component society. The amount of the assessment shall be fixed by the House of Delegates, but shall not be less than two dollars fifty cents per capita per annum, one dollar and fifty cents of which shall be for the annual subscription to the ILLINOIS MEDICAL JOURNAL. The annual subscription price of the ILLINOIS MEDICAL JOURNAL for non-members shall be two dollars per annum."

The other change is in the By-laws, Chapter 9, subdivision 4, paragraphs five and six. The paragraph now reads:

"The Secretary or Treasurer of a component society shall deliver to each member upon payment of annual dues a receipt upon a blank furnished by the Secretary of this Society to which shall be attached a form for use of the member in reporting any claim for malpractice, which form shall contain identification of member, year of issuance, directions and inquiries respecting claims."

The proposed change is to read:

"The Secretary or Treasurer of a component society shall deliver to each member, upon payment of annual dues, a receipt furnished by the Secretary of this Society, which blank shall state that one dollar and fifty cents of said dues is for one year's subscription to the ILLINOIS MEDICAL JOURNAL and to which shall be attached a form for use of the member in reporting any claims for malpractice, which form shall contain identification of member, year of issuance, directions and inquiries respecting claims."

The only change to the Society is in the matter of bookkeeping, but it will allow us to get by the post office laws. If we do not make this change, the probability is that we will have to pay first class postage on the JOURNAL in the very near future. I recommend the change and move its adoption. (Seconded and carried.)

DR. LILLIE: As a war measure, I remember Dr. VanDerslice introduced an amendment proposing alternates for each of the councilors in the districts.

THE CHAIRMAN: The proposed change in the Constitution is this: To Article 6 add Section 5 to read:

"During the period of the war, there shall be an alternate councilor elected for each councilor, the alternate councilor to act only in case the councilor from that district be called to the service."

DR. LILLIE: I move that the amendment be adopted. (Seconded.)

DR. O'BYRNE: We cannot adopt a by-law to act over a definite period of time. If we adopt a by-law, it is adopted until it is repealed. I think the move is a good one, to elect alternate councilors at the present time, but I think that is as far as our by-laws should go. If later we wish to repeal such by-law at the close of the war, we can do so.

DR. VANDERSLICE: I did not want this other part of the question to be drafted onto the war measure. The point of whether we are to have an unstable body of shifting alternate councilors is a very debatable question. There is no question but what we need enough men to carry on the business of this Society. I understand that there has not been a quorum at the Council meeting for several meetings. We must safeguard the doings of that Council, and the only way that we can do it is to pass a measure which will insure that there be a quorum at the meetings.

I do not think it is the time this morning to discuss whether there shall be alternate councilors or not. An alternate councilor will have the right to vote at any time that the councilor is not present. It seems to me that that shifting of responsibility is a bad thing from a managerial point of view. This way each councilor is responsible. With this amendment, the alternate councilor that takes the place of the councilor will be there with more or less permanency, and he will be personally responsible. Therefore, I hope that Dr. O'Byrne will not push the question. I believe the period of the war is definite enough for a period.

DR. PENCE: I would like to make a correction in the statement that the gentleman just made, that there has not been a quorum present at the council meeting for several meetings. There has lacked a quorum but one meeting. At all other meetings there have been more than a quorum present. The Council anticipated that there might not be a quorum, the first part of the year, and they appointed a committee to act for the Council if there were not a quorum. That committee took care of the business at the council meeting at which there was not a quorum.

DR. O'BYRNE: It seems I didn't make myself clear. I am not objecting to the amendment, but I am objecting to the form of the amendment. We can elect

alternate councilors to act during the absence of their principals in the war possibly, but it occurs to me that the councilor of this Society under the law, is recognized as the trustee of the Society, and you cannot elect an alternate trustee of any incorporated body.

DR. GILMORE: I believe that a war measure should take precedence. I know that the Council needs alternate councilors elected only for the war, because in peace times we never have any trouble getting a quorum. I believe that this House of Delegates should pass this amendment and elect these men, because you can not tell what is going to happen to that Council even this year. I feel pretty certain that a number of the men who have been elected councilors will be in service before the year is over. If they do not have any alternates, they can not do business, and I am in favor of the amendment.

Dr. VanDerslice's proposed amendment was carried.

The result of the vote on delegates to the American Medical Association convention was then announced, those elected being: Dr. Harvey, Dr. Humiston, Dr. Hektoen, Dr. Doan, Dr. Leigh and Dr. Coolley.

THE CHAIRMAN: Nominations are now in order for alternate councilor for each of the nine districts.

Those elected were:

First district, Dr. E. Windmueller, Woodstock, for regular councilor, C. E. Crawford, Rockford, alternate councilor.

Second district, Dr. Edwin S. Gillespie, Wenona, acting for regular councilor; Dr. J. H. Edgcomb, Ottawa, alternate councilor.

Third district, Dr. Clyde D. Pence, Chicago, acting for regular councilor; Dr. S. J. McNeill, Chicago, alternate councilor.

Fourth district, Dr. T. W. Gillespie, Peoria, acting for regular councilor; Dr. C. J. Eads, Oquawka, alternate councilor.

Fifth district: Dr. Charles S. Nelson, Springfield, acting for regular councilor; Dr. F. C. Gale, Pekin, alternate councilor.

Sixth district: Dr. H. P. Beirne, Quincy, acting for regular councilor; Dr. L. O. Frech, White Hall.

Seventh district: Dr. Charles F. Burkhardt, Effingham, acting for regular councilor; Dr. W. W. Murfin, Patoka, alternate councilor.

Eighth district: Dr. Cyrus E. Price, Robinson, acting for regular councilor; Dr. H. N. Rafferty, Robinson, alternate councilor.

Ninth district: Dr. C. W. Lillie, E. St. Louis, acting for regular councilor; Dr. W. F. Grinstead, Cairo, alternate councilor.

THE CHAIRMAN: Ladies and Gentlemen:—I wish to introduce Mr. Convers of the Fuel Administration who wants to address you a few minutes. (Applause.)

MR. CONVERS: My apology for inflicting myself upon you is that I am here under orders. This day when the Government reaches out and takes hold of all of us and tells us to do something, the thing to do is to do it cheerfully, and so I am going to try to be cheerful, and I am going to ask you to be cheerful for just a few moments. The subject is Fuel Conservation. I know it is an absolute waste of time to

talk to gentlemen like you in the business that you are in on the subject of the conservation of energy. That is part of your stock in trade, and all scientific men know that coal is absolutely stored up energy, and you know that when energy is exhausted, you have either got to hunt for a new supply or you have got to stop until that energy can be built up.

The administration of fuel in this state was greatly upset last winter by conditions. The people having this in charge are greatly worried by the conditions that are about to confront this state this coming winter. You gentlemen know that fuel means heat, and heat means comfort, and it means all the things that go with the necessities of life.

Now, the State Administration and the National Administration have set apart the week from June 3 to June 8 to be known as Fuel Conservation Week all over the United States. A great effort is going to be made to get all local consumers and all industries to conserve and lay in as much of a supply of coal as possible during the summer months, in order that it may get laid by and ready for the great, strenuous task of the winter.

Now, I am going to read to you just briefly the things that they want done, and this is part of a propaganda and it is put up to you gentlemen, because a propaganda must interest as many different kinds of people as possible. Men in your profession are meeting daily with people. You are meeting with people who live in the homes, and it is the people that live in the homes that must be touched by this great question. Just a word here and there as you go along will have a great influence, the same as a word here and there by the merchant, the retailer, the banker. If we can get everybody talking and interested in this subject, we will have a propaganda going that will bring it home directly to the people. You gentlemen realize that a word from a professional man who has a confidential relation goes a long way, and it is a word that is not questioned. Furthermore, whether this is being done wisely or not, it is a great deal like a great many of our propositions,—it is studied out by men who have made a study of the subject, and it is not for us to question as to whether they are acting wisely, but it is for us to co-operate with them. You gentlemen know in your business that if you are questioned in your advice, if you must tell your reasons why, you cannot accomplish the good, but what you must have is co-operation, and when you get hearty co-operation from the patient, the person with whom you are dealing, then you get the results.

The principal things they are asking for are these:

To urge on individual domestic consumers the immediate necessity to store as much as possible of the winter's supply of coal, crowding and expanding their storage capacity to the utmost limit.

Two, to urge retail dealers to get ready to supply the domestic demand by placing their orders early, and to expand their storage to the farthest limit so as to carry as great a reserve as possible into the winter season with the hope of preserving it intact until January.

Three, by advising purchasers not to be over fastidious in the kind or quality of coal they exact. The maximum production of the entire State of Illinois must be used, and if buyers persist in bunching their orders in one section, to the neglect of others, it is bound to lead to the curtailment of production and the disappointment of consumers. Purchasers must be made willing to use the coal that is available, and preferably that which is nearest to home.

Fourth, if consumers or dealers are unable to finance the storage of coal herein recommended, measures should be devised to assist them. Bring together the public-spirited citizens of the community for the purpose of furnishing the backing for any plans for storage and protection that the needs of the locality may demand.

Fifth, urge on industrial consumers the need of storage, at least sixty days' coal at once, if they wish to avert the imminent danger of shortage next winter, and especially should they be admonished to make every effort to use screenings for current use. The enhanced demand for prepared sizes caused by the storage campaign will flood the market with screenings which cannot be disposed of unless a strenuous effort is made by every steam user to burn screenings for the current summer consumption. Schools and public institutions should be leaders in this movement. Public opinion should be roused to the point of stimulating and supporting their directors in the policy of buying and storing coal early, not only to hedge against a local shortage, but also to enable mines and railroads to operate to full capacity during the summer months. Early buyers of coal should not get impatient if their orders are not filled promptly. The intention of the early buying campaign is to flood the producers with orders, so that there will be no excuse for either mines or railroads to lose a single day's production. Delay in filling orders will mean that the campaign has been successful, that the people have patriotically responded to the appeal, that the responsibility for coal supply has been transferred from consumers and dealers to producers and transporters, provided the orders have been distributed all over the State and not bunched in one section, and that abundant provision has been made to receive the maximum production of the State as fast as it can be mined.

Gentlemen, all we ask is that you take this message, along with the hundreds of others that come, put it next to your heart, take an interest in it, and get in touch with your local fuel administrator in your county and help carry out the propaganda. I thank you, gentlemen. (Applause.)

THE CHAIRMAN: Nominations for membership to the Public Policy Committee are now in order.

The committee consisted of Sadie Bay Adair, H. N. Rafferty and C. W. Lillie. They were elected to succeed themselves.

THE CHAIRMAN: We will now elect the members of the Medical Legislation Committee. The present committee consists of Don Deal, N. M. Eberhart

and R. L. Morris. Dr. Morris is in the service of the United States.

Dr. Edward Bowe, of Jacksonville, was nominated to take the place of Dr. Morris, and the committee as finally elected were: Dr. Don W. Deal, Springfield; Dr. N. M. Eberhart, Chicago, and Dr. Edward Bowe, Jacksonville.

THE CHAIRMAN: We will next elect members of the Medico-Legal Committee.

Dr. Gilmore read the resignation of Dr. Andy Hall.

Dr. C. B. King, of Chicago, was elected to succeed himself; Dr. Frank C. Fisher, Bloomington, to succeed Dr. T. D. Cantrell, and Dr. E. E. Edmondson, of Mt. Vernon, to succeed Dr. Andy Hall.

On the Medical Education Committee, Dr. H. J. Stewart was elected to succeed Dr. Corwin. The committee now consists of:

Dr. Harry J. Stewart, Oak Park; Dr. Frank Buckmaster, Effingham, and Dr. Martin M. Ritter, Chicago.

Dr. Gilmore then read the following communication from the American Medical Association:

Dear Doctor Gilmore: The Council on Medical Education is continuing its survey for the purpose of determining what hospitals in the United States are qualified to furnish satisfactory internships. The fact that seven medical schools and seven state licensing boards have adopted the requirement of a fifth or intern year for graduation or licensure, and the certainty that other schools and state boards will follow their example, necessitates a more complete survey of the hospitals than has thus far been conducted.

In making such a survey it is extremely important that we have in each state a good, strong advisory committee, made up of doctors who are thoroughly acquainted with the hospital situation in their respective states, who are vitally interested in the problem of the relation of hospitals to medical education, and who will act in an advisory capacity with the Council in its investigation of the hospitals.

Will you kindly have your State Society appoint a Committee on Hospitals to aid in this important work? A strong active committee in your state can render valuable assistance.

Awaiting with interest your reply, we are

Very truly yours,

COUNCIL ON MEDICAL EDUCATION,

Per N. P. COLWELL, *Secretary*.

P. S.—The members of the committee in your state who have been active in this work up to the present time, and who are worthy of consideration are:

Dr. John A. Hornsby, Editor, "The Modern Hospital," Chicago; Dr. John M. Dodson, Dean, Rush Medical College, Chicago; Dr. C. L. Mix, Prof. of Medicine, Northwestern University Medical School, Chicago.

N. P. C.

DR. VANLERSLICE: I move that the suggestion in the letter be concurred in. (Seconded and carried.)

The Committee on Resolutions then presented its report:

RESOLUTION No. 1.

WHEREAS, The services of our worthy and efficient chairman of the Legislative Committee, Dr. Don Deal, have been so valuable and far-reaching to the medical profession and to the citizens of Illinois, therefore, be it

Resolved, That the Illinois State Medical Society tender to Dr. Deal a vote of thanks and good wishes and assurance that we are glad to have him continue his excellent services in his official capacity.

RESOLUTION No. 2.

The members of the Illinois State Medical Society, in annual session assembled, record their gratification over the successful operation of the Departments of Registration and Education and of Public Health, as created by act of the legislature a year ago.

We congratulate Governor Lowden on the great wisdom and sagacity displayed by him in conceiving and in securing the enactment of the bill which substitutes for the cumbersome, inefficient and expensive scheme of administration formerly in vogue, the efficient plan of fewer departments with responsible heads.

We express our appreciation of the wisdom displayed by him, in his selection of men to serve as chiefs of the Departments of Registration and Education and of Public Health, which deal specifically with matters of medical interest and importance.

We voice our hearty approval of the progressive and effective conduct of these departments during this first year of operation of the new plan.

We believe that the great advantage of separating the functions of licensure and registration from that of administration of health and sanitation has been conclusively demonstrated.

RESOLUTION No. 3.

Resolved, That the House of Delegates of the Illinois State Medical Society, in annual session assembled, hereby records an expression of appreciation of the active and efficient service which is being rendered by the State Department of Public Health under the new Civil Administrative Code; gives its heartiest approval of the policy pursued by the Director of Public Health wherein a closer co-operation between the medical profession and the State administration is sought in the interests of the public health; and extends to the Governor, the Department of Public Health and its Director assurances of all such assistance as lies within its power in the fulfillment of laudable undertakings which are in behalf of public welfare;

Be It Further Resolved, That copies of these resolutions be forwarded to his excellency, Governor Frank O. Lowden and to Dr. C. St. Clair Drake, Director of Public Health.

RESOLUTION No. 4.

WHEREAS, It has pleased Almighty God in His wise providence to remove from the scene of his earthly

labors, our friend and co-worker, Doctor August H. Arp, of Moline; therefore, be it

Resolved, By the House of Delegates of the Illinois State Medical Society at its sixty-eighth Annual Meeting, that the medical profession of the State of Illinois has lost not only a true and tried worker, but a faithful friend and physician. He served for five years as a councilor of the State Medical Society and was a conscientious worker for the betterment of medical conditions. Our friend and co-worker has passed to the life beyond and while death has removed him from our midst, our memories will always cherish his sterling qualities.

Resolved, Further, that this resolution be spread on our minutes, published in the ILLINOIS MEDICAL JOURNAL, and a copy forwarded to the bereaved family, to whom we express our heartfelt sympathy, in this, their time of sorrow.

CHAS. J. WHALEN,
G. C. BURDICK,
H. D. JUNKIN,
W. F. GRINSTED,
T. D. DOAN,

Committee on Resolutions.

RESOLUTION No. 5.

WHEREAS, It has pleased Almighty God in His wise providence to remove from the scene of his earthly labors, our friend and co-worker, Dr. William O. Ensign, of Rutland, who was one of the oldest licentiates of Illinois, practicing medicine in Rutland for nearly half a century; an ex-president of the Illinois State Medical Society, a member of each succeeding house of delegates for a quarter of a century; therefore, be it

Resolved, By the House of Delegates of the Illinois State Medical Society as its sixty-eighth Annual Meeting that the medical profession of the State of Illinois has lost not only a true and tried worker, but a faithful friend and physician, one who gave of his best efforts to relieve the sick and suffering and whose highest ambition was to minister unto the needs of his fellow creatures. His genial countenance and kindly disposition won for him a warm spot in the hearts of those with whom he came in contact. Our friend and co-worker has passed to the life beyond, and while death has removed him from our midst, our memories will always cherish his kindly nature and sterling character.

Resolved, Further, that this resolution be spread on our minutes, published in the ILLINOIS MEDICAL JOURNAL, and a copy forwarded to the bereaved family, to whom we express our heartfelt sympathy, in this, their time of sorrow.

T. D. DOAN,
W. F. GRINSTED,
H. D. JUNKIN,
G. C. BURDICK,
CHAS. J. WHALEN.

RESOLUTION No. 6

WHEREAS: It has pleased an All-wise Providence to call to his reward our revered associate, Dr. E. Fletcher Ingals, therefore, Be It

Resolved, By the House of Delegates of the sixty-eighth annual meeting of the Illinois State Medical Society that the medical profession of the State of Illinois has lost one of its most able and beloved members; a former president, active in all measures for the benefit of the Society; devoting his great abilities to raising the standards of medical education; one whose untiring labors contributed materially to the advancement of Laryngology.

Resolved, Further, that this resolution be spread on our minutes, published in the ILLINOIS MEDICAL JOURNAL, and a copy forwarded to the bereaved family, to whom we express our heartfelt sympathy, in this, their time of sorrow.

CHAS. J. WHALEN,
G. C. BURDICK,
H. D. JUNKIN,
W. F. GRINSTEAD,
T. D. DOAN,

Committee on Resolutions.

RESOLUTION No. 7.

WHEREAS, The People of Illinois will be given the opportunity to vote at the general election November 5, 1918, for a sixty million dollar issue of State bonds for the purpose of building a state-wide system of durable hard-surfaced roads—the entire cost of which will be paid for out of the automobile license fees; and

WHEREAS, Governor Lowden has unequivocally stated that he will not issue the bonds nor build the roads until after the war when business conditions will justify such action, and has also stated that he would consider it a calamity if this bond issue should fail to receive the approval of the voters next November; and

WHEREAS, The members of the medical profession are frequently compelled to travel over public highways, no matter what their condition, and consequently are vitally interested in the question of securing good roads; therefore, be it

Resolved, By the members of the Illinois State Medical Society that we do heartily endorse this plan to issue, immediately after the war, sixty million dollars of State bonds for the purpose of building a comprehensive system of permanent roads reaching into every community in the State of Illinois, and we pledge ourselves to do everything within our power to secure a favorable vote on November 5, 1918, for these bonds.

COMMITTEE ON RESOLUTIONS,

T. D. DOAN,
W. F. GRINSTEAD,
H. D. JUNKIN,
G. C. BURDICK,
CHAS. J. WHALEN.

RESOLUTION No. 9.

WHEREAS, In view of the present wholly unsatisfactory treatment of the subject of criminal abortion and the criminal abortionist in Cook County, and

WHEREAS, This deplorable condition for which the apathy of the medical profession is in part responsible, may best be remedied by having the duties of coroner performed by a Doctor of Medicine, and

WHEREAS, At the present time, Judge Carter of the Illinois Supreme Court, at the request of the Governor of the State, has in preparation a new constitution for the State; therefore, be it

Resolved, That the Committee on Medical Legislation be instructed by the Illinois State Medical Society to prepare a law having for its object the abolition of the office of Coroner in Cook County and the establishment in its stead of the office of Chief Medical Examiner and that the said Chief Medical Examiner shall be appointed by the Governor from the classified service and further that the said Chief Medical Examiner shall be a skilled microscopist whose duties shall be the same as those now performed by the Coroner of Cook County.

Resolution marked No. 1 carried.

Resolution marked No. 2 carried.

Resolution marked No. 3 carried.

Resolution marked No. 4 carried.

Resolution marked No. 5 carried.

Resolution Marked No. 6 carried.

Resolution marked No. 7 was referred to the Legislative Committee, and the House of Delegates went on record as concurring in their recommendation.

Resolution marked No. 8 was destroyed by Dr. Gilmore when the House of Delegates voted that it be laid on the table. The resolution can be found in the Tuesday evening session of the House of Delegates, when Mr. Deal read it, thinking that it might be considered an amendment to the Constitution.

Resolution marked No. 9 was referred to the Legislative Committee.

The Committee on Cancer asked that it be read by title and given more time.

ADJOURNMENT.

AUDITOR'S REPORT, ILLINOIS STATE MEDICAL SOCIETY, MAY 16, 1918.

Chicago, June 20, 1918.

Board of Directors, Illinois State Medical Society.

Gentlemen: We have made an examination of the cash receipts and disbursements of the Illinois State Medical Society for the year ended May 16, 1918, and submit herewith our report.

The general fund at May 16, 1917, showed a balance of \$2,170.70. Receipts for the year, exclusive of the income from advertisements, etc., totaled \$8,784.10. The disbursements aggregated \$3,871.27, leaving a balance of \$7,083.53. After deducting from this balance the excess of disbursements over the receipts of the JOURNAL, the balance in the fund at May 16, 1918, amounted to \$4,886.33.

We present herewith a statement of the cash receipts and disbursements for the period and include the transactions of the Medico-Legal Defense fund. The balance in this fund at May 16, 1918, amounted to \$13,420.85, thus increasing the total in the two funds to \$18,307.18.

According to the books the funds consisted of:

Liberty Bonds\$ 5,000.00

On Deposit—

Farmers State Bank, Belvidere, Ill. 13,288.92

Illinois Trust & Savings Bank, Chicago... 18.26

\$18,307.18

The amounts on deposit were in accordance with bank statements and certificates on file. The Liberty bonds were not verified by us in any particular.

We have accepted the book figures for the income from advertisements in the JOURNAL.

The amounts received from the secretary have been verified by examination of the records kept by that individual, but we have not confirmed the receipts shown in his books by communication with the parties remitting to him.

In our examination we found that all disbursements were supported by cancelled bank checks and vouchers on file.

Yours very truly,

[SEAL]

ERNST & ERNST,

Certified Public Accountants.

CASH RECEIPTS AND DISBURSEMENTS.

ILLINOIS STATE MEDICAL SOCIETY, MAY 16, 1917, TO
MAY 16, 1918

GENERAL FUND

Balance on hand May 16, 1917..... \$ 2,170.70

RECEIPTS

Subscriptions 8,784.10

\$10,954.80

DISBURSEMENTS

Council Expenses..... \$ 1,065.92

Legislative Committee Expenses..... 122.65

Annual Meeting Expense..... 449.65

Badges 126.84

Printing and Stationery..... 171.02

Medical Education Expense..... 5.00

Stenographer 21.15

Council National Defense..... 85.00

W. H. Gilmore—Salary..... 900.00

W. H. Gilmore's Assistant—Salary..... 300.00

A. J. Markley—Salary..... 50.00

Miscellaneous Office Expenses..... 574.04

\$ 3,871.27

JOURNAL

Printing\$7,031.96

Stenographer 600.00

Postage 900.00

Clippings 31.50

H. G. Ohls—Salary..... 720.00

Clyde D. Pence—Salary..... 900.00

Miscellaneous Expenses..... 243.23

Commissions 333.16

\$10,759.85

Less: Income from advertisements, etc.....\$8,558.13

Interest from Bank..... 4.52

8,562.65

Balance May 16, 1918..... \$ 4,886.33

MEDICO-LEGAL DEFENSE FUND

Balance on hand May 16, 1917..... \$10,868.40

RECEIPTS

W. H. Gilmore..... 5,423.50

\$16,291.90

DISBURSEMENTS

Legal Services.....\$ 2,184.05

Traveling Expense..... 106.00

Stenographer 26.00

Printing and Stationery..... 55.00

Honorarium 500.00

2,871.05

Balance May 16, 1918..... \$13,420.85

Balance (both funds) May 16, 1918... 18,307.18

DISTRIBUTED AS FOLLOWS:

Illinois Trust & Savings Bank, Chicago..\$ 18.26

Farmers State Bank, Belvidere, Ill..... 13,288.92

*Liberty Bonds..... 5,000.00

\$18,307.18

Not.—(*) These bonds have not been verified by us.

COOK COUNTY

CHICAGO OPHTHALMOLOGICAL SOCIETY

A regular meeting was held December 17th, with the president, Dr. Paul Guilford, in the chair.

Dr. E. R. Crossley presented an unusual case of chronic hypertrophic conjunctivitis. The patient stated that about one year ago the left eye became inflamed and congested. Profuse lachrymation was present, which condition continued for eight or nine months.

At this time the patient noticed a beginning enlargement and thickening of the upper lid which had continued up to the present time. He came to the clinic for treatment about one month ago.

It was with difficulty that the lid was turned on account of thickening. The surface presented a somewhat irregular, rather nodular appearance. The condition was to be differentiated from: (1) tuberculosis, (2) Parinaud's conjunctivitis, (3) possibly trachoma.

(1) In a tubercular conjunctivitis there was to be found numerous grayish ulcerated surfaces which were not present.

(2) In Parinaud's conjunctivitis the swelling usually extends to the retrotarsal folds and conjunctiva of the eyeball. Onset is accompanied by temperature and the preauricular as well as the parotid glands are swollen and not infrequently suppurate. These symptoms were not present.

(3) The characteristic granular bodies of trachoma were not present.

The patient was sent to the laboratory, and smears as well as cultures were made from the surface. No organism was found in either smear or culture. A section was taken from the thickened tissue and sections made by Dr. Lane, who gave the pathology.

Dr. Francis Lane said that for the proper understanding of a disease of an organ it was essential to know the embryology, normal histology and pathology. There were three types of cells which were found in normal conjunctivas—those of hemic origin cells of connective tissue origin, and others of doubtful origin. Cells of hemic origin are polymorphonuclear leukocytes not found in any great quantity in normal conditions, but in some suppurative diseases they are found in large numbers, most frequently near the basement membrane. Another cell which we find is the eosinophile; not in any great number except in certain pathological conditions—in spring catarrh in particular. Another cell of hemic origin found is the mast cell; not very many and not

markedly proliferated in any of the pathological subjects studied in the last fifteen years.

The connective tissue cells found are the fibroblasts which vary in shape and size. As a rule, the superficial ones are more elongated and the deeper ones more round. The cells which interest us particularly are the endothelial and perithelial, found in the superficial layers of the substania propria and in any inflammatory condition they proliferate very rapidly. They are apparently ameboid, because they go through the blood vessels and proliferate outside. Other normal cells are large and small mononuclear lymphocytes, probably originating from the endothelial, the cells lining the lymph gland. The large are found wherever the small mononuclear lymphocytes are found, and probably proliferate wherever the infection is. The relation of the small and large lymphocytes was not well understood; the large were probably an enormous development of the small lymphocyte.

The cells that are not found in the normal conjunctiva under normal conditions are the epithelioid cell and giant cell. The giant cells are of two types, those which originate from the plasma cell and those which originate directly from the endothelial cell. In the specimen Dr. Crossley gave him there were plasma cells and a few polymorphonuclears finding their way through the tissues. There was an enormous development of the plasma cell. There were three types, the ordinary type, the large or clasmaticytes and one or two giant cells—chorioplakes—which evidently originated from endothelial cells. The specimen had been taken so that the sections were made transversely. The specimen was five or seven by about ten millimeters. The specimen showed thickened epithelium cells, but the striking feature was an enormous overdevelopment of plasma cells indicative of chronicity. There was a moderate amount of old connective tissue formation. For the want of a better name the type had been described in 1908 or 1909 by Parchet, by Shoemaker, and later by Elschning as a chronic hypertrophic conjunctivitis or conjunctivitis plasma-cellularis.

Dr. E. V. L. Brown reported a case of embolus of the macular artery, and exhibited the patient.

The patient was a man, aged 26, married, no children; he was coming down town on a street car fourteen days ago at about 7 a. m. He had been reading, and on looking out of the window suddenly discovered that his left eye was blind. Examination four or five hours later showed a small hemorrhage just above the macular artery near the disc, with edema of the disc and macular area, though blood flowed through all portions of the vessel. There was a typical "cherry-red spot." There was distinct evidence of arteriosclerosis of both retinal vessel systems, not only nicking of veins by arteries, but distinct tortuosity of the smaller vessels, without which the diagnosis of arterio-sclerosis should never be made, according to some authors.

A physical examination elicited no general arteriosclerosis, and only the temporal arteries felt hard-

ened. Blood pressure was 115-80. The teeth were found sound by x-ray examination and clinically. The Wassermann reaction was negative in both the Presbyterian and Cook County Hospitals on both the blood and spinal fluid. There was no evidence of tuberculosis. The tonsils were found to contain pus and were removed on December 14th. There had been a slight albuminuria, but after the removal of the tonsils no albumin was to be found. There had been no abnormal temperature and the patient felt well after the tonsillectomy. Two days before the tonsillectomy the hemorrhagic area was distinctly to be seen, but now unless told that hemorrhage had been present none would be suspected now. The edema was not nearly so marked as it had been a few days previously, and the "cherry-red spot" barely discernible. There has not been any return of vision.

Dr. Thomas Faith presented a patient for whom he had performed an iridotaxis for primary glaucoma.

The patient was a woman, aged 29, who consulted him in 1913 for primary glaucoma of both eyes.

The right eye was very much worse than the left, with vision something like 4/200. A trephining was done on the right eye some time in the fall of 1913 which apparently reduced the tension, but it was followed within a month or two by complete detachment of the retina. In February, 1914, the eye was enucleated on account of pain and increase in tension. The left eye was kept within reasonable bounds of tension with eserine, but the strength of the solution had to be continually increased until in the fall of 1915 the case reached the point where the tension was not kept in check even with four grains to the ounce of eserine. It would be as high as 56, then go down to 40. In January an iridotaxis was done. For five or six days the tension to fingers was normal, and then went up. No eserine was used immediately following the operation, but after a few days it was used and the tension immediately came down and has remained normal ever since. The patient has used no drops for many months, and the tension now is 15-20-25, whenever taken; vision, 20/30. It will be two years in January, 1918, since the operation.

(To be continued)

CHICAGO LARYNGOLOGICAL AND OTOLOGICAL SOCIETY.

Meeting of Nov. 20, 1917—Continued

DR. JOSEPH BECK said the advantage of the hurr was that one could get down to the mucous membrane of the antrum without entering the antrum. He would consider it a failure in the technic if he got into the antrum. In the case in which he opened the antrum he did not pack with wax, but treated it as an open wound and subsequently used bismuth injections and got a complete recovery.

As to the congenital side of the question, he had x-ray plates of a father and daughter who had dentigerous cysts. He operated the father fourteen years before the daughter. In looking over the work of Killian, he spoke of the dentigerous cysts in the nasal cavity and one of the earliest cases he reported was such a cyst which went into the nasal cavity and included it.

Replying to a question from Dr. Frank, Dr. Beck said that recurrences usually were noted two or three months after the closure.

DR. IRA FRANK, closing, said his patient had been free from recurrence for about a year. The cyst in his case was removed by making an incision on the buccal surface of the superior maxilla, similar to that employed in the radical antrum operation. The mass was exposed and incised, after removing the teeth, which were firmly imbedded, the cyst was easily shelled out.

ones which caused almost no trouble, it was a very simple proposition to eradicate those cysts. Those which lie posteriorly were more closely in association with the antrum and would cause more trouble; it was in those cases where the antrum was most likely to be involved and one would have to open into it.

DR. CARL F. BOOKWALTER presented a paper entitled: "The Intranasal Operation for the Relief of Chronic Dacryocystitis."

The operation established a permanent opening from the nose into the lachrymal sac and nasal duct. Drainage thus obtained relieved the suppuration and way was provided for tears to pass into the nose. The opening was made just in front of the middle turbinate. It should extend nearly to the top of the lachrymal sac and almost down to the inferior turbinate, the width corresponding to the width of the sac and duct. A window of nasal mucosa was removed over the intended opening and enough of the nasal process of the superior maxillary and of the lachrymal bones removed to expose the sac and duct to the extent above indicated.

The exposed nasal side of the sac and duct was removed, leaving the lateral side in place. The opening should be large and the edges must be kept smooth till healing is complete.

The results were ideal if the operation was well done and after treatments carefully carried out.

Suppuration was relieved invariably. There was no tearing if the canaliculi were reasonably good condition.

He had operated more than twenty cases in the past three years with very satisfactory results.

DISCUSSION.

DR. FRANK BRAWLEY stated that he had done some of these operations and the modification he had made was to use the burr instead of the chisel, which made a less cumbersome and more rapid operation, and it was equally effective in removing plenty of bone. He thought it was an operation which there was not much opportunity to do. He had found it somewhat difficult to persuade a private patient that it was the operation he should have done. He believed the use of the burr was an improvement.

DR. JOSEPH BECK said he had done about fifteen of the operations by the various methods suggested, the Yankauer first. He had seen his operation and brought home his instruments and persuaded a friend to let him operate on a case he had been probing. In this method he pried off the inferior turbinate with the curved hooks. That case was a failure, as was every other case he had done. In adopting the upper avenue a very small wound through the slit was necessary and they used the Hollow modification of the operation, trying to line the cavity so there would be no raw surfaces. It had been their experience that in using the sounds after the operation the parts had contracted down and there was the same trouble. He thought the principle point in Dr. Bookwalter's paper was the wide cut and he felt that he had not paid enough attention to that. He would try this method in any future cases. It seemed rational to drop the bottom out of the sac, pack and let it drain through the nose.

DR. ROBERT H. GOOD said the pain could be relieved entirely by putting cocaine into the sac and then injecting novocaine around the sac. He had exhibited a patient about six months ago in which he did the combined West and Yankauer operation. He chiseled away the bony wall of the duct and sac and then slit up the nasal duct and sac all the way and the result was perfect. He thought if the bony wall was taken away and a good opening made in the sac some day the duct might open up by itself and functionate because of the bony wall having been removed. Yankauer's point of relieving the pressure on the lower end of the duct by removing the nasal side of the bony wall was a very important one and should not be lost sight of.

DR. H. R. BOETTCHER stated that he and Dr. Woodruff had five cases in which they incised the outer wall and took a burr and burred through and then sewed it up again. The immediate results were fine and two did fairly well, but the rest closed up again.

DR. BOOKWALTER, in closing, said that he had never used a burr but should like to try one some time. As to anesthesia, he used morphine hypodermically, cocaine and novocaine, injecting the novocaine into and around the sac.

He considered a large opening into the nose very important. After treatments should be carefully carried out for six to eight weeks. Cases that had remained well for a year, without treatment and in which the opening into the nose had smooth edges, showing no change during that time, he considered cured.

He had never had a recurrence of suppuration and his first case was done nearly four years ago. There was a little tearing in some cases where the canaliculi had been injured by previous treatment, but if the canalicula were uninjured there was no tearing after the operation.

CRAWFORD COUNTY

The regular monthly meeting of the Crawford County Medical Society was held in Hudsonville, June 20, 1918. Eight members were present.

Program consisted of a paper by C. H. Voorheis, "Experience as an Examiner on the Exemption Board." This paper created a lively discussion by all members present. This paper showed the doctor had his heart in the work and that it is such men and their untiring efforts that has allowed Uncle Sam to create so good and vast an army with so little jar and wrangling, and all praise is due them.

Dr. Hardin, the other member on the program, being absent, the subject of "Tuberculosis and County Tubercular Sanitoriums" was taken up by around the table talks, after which a motion was made and carried that the Crawford County Medical Society go on record as favoring the erection of the Tubercular Sanitorium in Crawford County.

It was agreed to have a public tuberculosis meeting in Robinson at the October meeting and that Dr. Palmer, president of the Illinois Tuberculosis Association, be asked to address this meeting. The secretary-treasurer was directed to pay the 1918 dues to the State Society of those members of the county society now serving in the Medical Reserve Corps and to continue paying same as long as they are in the service.

Dr. H. N. Rafferty, delegate to the State Medical Society, made a very good and elaborate report of the state meeting at Springfield and of the numerous actions taken in the House of Delegates.

C. E. PRICE, Secretary-Treasurer.

Personals

Dr. J. E. Walton, Medora, has been commissioned Captain, M. R. C.

Dr. Theodore C. Haits, Canton, has been commissioned captain, M. R. C.

Dr. H. J. Oyler, Lincoln, has been commissioned captain, M. R. C.

Dr. H. A. Millard, Monmouth, has been commissioned Captain, M. R. C.

Dr. Paul R. Badger, Kankakee, has been commissioned Lieutenant, M. R. C.

Dr. Richard F. Herndon, Springfield, has been commissioned first lieutenant, M. R. C.

Dr. Wm. R. Fletcher, Joliet, has been commissioned First Lieutenant, M. R. C.

Dr. Arthur M. Purves, Des Plaines, has been commissioned Captain, M. R. C.

Dr. James W. VanDerslice, Oak Park, has been commissioned Captain, M. R. C.

Dr. H. E. Van Epps, Sterling, has been commissioned First Lieutenant, M. R. C.

Dr. D. S. Ray, of Cuba, is organizing Fulton County in a campaign against tuberculosis.

Dr. Edwin P. McLean, Maroa, has been commissioned first lieutenant, M. R. C.

Dr. John F. Heller, Des Plaines, has been commissioned First Lieutenant, M. R. C.

Dr. Louis L. Frisque, Chicago, has been commissioned Captain, M. R. C.

Lieut. Ansel Magill, Concord, has been ordered to Camp Jackson, Columbia, S. C., for duty.

Dr. Joseph M. Blum, Chicago, has been commissioned Captain, M. R. C.

Dr. Robert H. Buck, Chicago, has been commissioned Captain, M. R. C.

Dr. Frank Chmelik, Joliet, has been commissioned First Lieutenant, M. R. C.

Dr. J. H. Bacon, Peoria, has been commissioned Captain, M. R. C.

Dr. T. C. Hays, Canton, has been commissioned Captain, M. R. C.

Lieut. Daniel D. Raber, M. R. C., of Pontiac, is at Camp Green, Charlotte, N. C.

Capt. John A. Kappelman, M. R. C., state health officer, expects active duty as soon as the smallpox situation is favorable.

Major W. G. Alexander, M. R. C., has had charge of x-ray work at Camp Dodge, Des Moines, Iowa, since last August.

Capt. E. B. Godfrey, M. R. C., Springfield, is in command of an ambulance company at Camp Beauregard, La.

Capt. Lorin C. Collins, Chicago, succeeded Capt. Strong as head of the Chanute field aviation hospital.

Dr. Thomas H. Boughton, Chicago, has been appointed coroner's physician, to succeed Dr. William H. Burmeister, who has gone to France.

Dr. Clara P. Seippel, Chicago, has been appointed a member of the general medical board of the National Council of Defense by the Secretary of War.

Dr. William Loeser, Chicago, was exonerated by a coroner's jury of any connection with the death of Henry Hulke, who died Jan. 1 in the German-American Hospital.

Dr. J. H. Gahagan is head of a committee of the American Medico-Psychological association, which is planning diversional work for men returning from Europe with shell shock.

Dr. C. St. Clair Drake was elected chairman of the section on preventive medicine and public health of the American Medical Association at the recent meeting in Chicago.

Dr. Clarence W. East, Springfield, is reported to have passed first in the examination for chief of the division of tuberculosis of the department of public health.

Capt. S. M. Strong, head of the Chanute aviation field hospital, who flew to Chicago during the A. M. A. meeting, piloted by Capt. Harry Smith, has been ordered to Ebert Field, Lonoke, Ark.

Dr. John B. Nardi, Chicago, has recovered from serious injuries sustained November 26, 1917, being struck by an automobile while crossing the Midway boulevard on 60th St., and will soon resume professional duties.

Dr. A. T. Webb, formerly of Freeport, is said to be in the Italian Military Corps and located at the Stomatological hospital in Rome, where 6,000 patients have had plastic operations during the war.

Dr. Nanthaniel H. Schaffner, charged with violation of the Harrison Narcotic Law, is said to have pleaded guilty to the unlawful sale of drugs and to have been sentenced to a term of two years' imprisonment in the federal penitentiary, Leavenworth.

Dr. David J. Davis, of Wilmette, was awarded a silver medal at the scientific exhibit of the American Medical Association for his demonstration of sporotrichosis. Certificates of merit were awarded to Dr. Alfred A. Strauss for stomach and intestinal surgery to Dr. Leigh F. Watson for experimental studies of goiter, and to Daniel N. Eisendrath for experimental effects of cholecystectomy. Major Charles S. Williamson exhibited a variety of sanitary apparatus, including a garbage incinerator, which is said to run without fuel except that in the garbage after being started with wood. He was awarded a gold medal.

News Notes

—The \$12,000,000,000 bill recently passed by the Senate provided more general officers and promotions for the medical corps.

—The list of convictions by the department of registration and education for medical frauds begins to look like a blue book. Quacking in this state is not what it was cracked up to be.

—We have referred as occasion seemed to indicate to the exploits of Dr. C. W. Kimery, of Allenville. His latest is an arrest for performing a criminal operation.

—It is reported that after Oct. 15, 1918, no medical college will be recognized as in good standing in Illinois unless it requires for admission two years of work in an approved college of liberal arts or a fully equivalent education.

—A new hospital car, built at a cost of \$12,000 by the Chicago Railways Company, has been placed in use between the Chicago Psychopathic Hospital and the institutions at Elgin, Dunning, and Kankakee. It solves the difficult problem of transporting mental cases in a humane manner.

—At the meeting of the Vermilion County Medical Society, at Danville, June 4, a service flag bearing seventeen stars was dedicated. The principal address was delivered by Dr. Elmer B. Coolley, Danville, retiring president of the Illinois State Medical Society.

—Twelve students received the degree of M. D. at the June convocation of the University of Chicago. Honorary degrees were conferred on Prof. W. S. Haines and Col. Frank Billings. The convocation addresses by Dean John M. Dodson, Dr. Norman Bridge and Dr. D. Bryson Delavan were memorials to Prof. E. Fletcher Ingals.

—Speaking of drawing cuts by physicians to decide who shall volunteer, the *Petersburg Observer* quotes the *Du Quoin Call* and adds: "Now let's see what the *Du Quoin Call* and doctors will do about the SLACKERS? Pinckneyville has sent TWO doctors and Swanwick one; where, oh, where, is Du Quoin?"

—At the annual meeting of the Medical Women's Club, June 19, the following officers were elected: President, Dr. May Cushman Rice; vice-presidents, Drs. Katherine B. Rich and Clara Jacobson; secretary, Dr. Grace H. Campbell; treasurer, Dr. Ione F. Beem, and editor of the *Bulletin*, Dr. Sadie Bay Adair, all of Chicago.

—At the annual meeting of the Physicians' Club of Chicago the following officers were elected: Chairman, A. A. O'Neill; secretary, V. D. Lespinasse; treasurer, H. W. Cheney; directors, E. J. Doering, D. N. Eisendrath, O. W. McMichael and A. M. Corwin. The closing function of the year was a banquet in honor of Major-General Gorgas, at which representatives of the various departments of the army were speakers.

—At the annual meeting of the Northwestern Medical School Alumni Association held in Chicago, June 10, Major Samuel C. Stanton ('92), M. R. C., U. S. Army, Chicago, was elected president; Dr. Luther J. Osgood ('03), Chicago, secretary-treasurer, and Dr. Horace M. Starkey ('78), Rockford, necrologist. At the smoker that followed the meeting, Col. William N. Bispham, M. C., U. S. Army; Majors Franklin H. Martin and Edmond J. Doering, Lieut.-Com. David S. Hillis, President Thomas F. Holgate of Northwestern University, and Dr. Luther J. Osgood, newly elected secretary of the faculty, were the speakers.

—Four new infant welfare stations will be established in Chicago as the result of the money-raising campaign during the recent baby week, when \$67,000 was raised, \$2,000 more than the goal set. Heretofore, only children under 2 years have been cared for at the stations, but it is hoped that the resources will soon allow an extension of the work to include children under 6 years. There are now twenty-two infant welfare stations. The increase will make the number twenty-six.

—A reception was given by the Bureau County Medical Society at Princeton, May 28, in honor of Dr. Oliver J. Flint, Princeton, who has been called to army service. Dr. Rolando H. Henry, Tiskilwa, was the toastmaster. Dr. Samuel W. Hopkins, Walnut, presented the toast, "Dr. Flint as a Citizen"; Dr. John H. Franklin, Spring Valley, "Dr. Flint as a Physician"; Dr. Charles C. Scott, Princeton, "The Physician's Place in War"; Dr. Joseph M. O'Malley, Ohio, "The Physician Patriot," and Dr. Alfred E. Owens, Princeton, "A Memorial of Friendship."

Marriages

LIEUT. JOHN VARDYMAN DILLMAN, M. R. C., U. S. Army, to Miss Luella Caroline. Good-enough, both of Louisville, Ill., April 25.

VICTOR I. ENGLERT, to Mrs. Cora Kors, both of Chicago, May 23.

LIEUT. CLAYTON JAMES HYSLOP, Chicago, on duty at Camp Wheeler, Macon, Ga., to Miss Edna Forsythe, Galesburg, Ill., at Macon, Ga., June 8.

LIEUT. CHARLES HENRY REINHARDT, M. R. C., U. S. Army, to Mrs. Mary Baker, both of Chicago, at Newport News, Va., April 13.

WILLIAM WARREN STEVENSON, Chicago, to Miss Caroline E. Pretzlaff, at Sibley, Ill., June 10.

LIEUT. ELMER W. SEABURG, M. R. C., U. S. Army, to Miss Mabel Barbara Belsley, both of Peoria, June 5.

Deaths

HENRY J. PARKER, Clayton, Ill.; Missouri Medical College, St. Louis, 1870; aged 72; died at his home May 6.

EVAN EDMISTON GWYNNE, Chicago; Hahnemann Medical College, Chicago, 1879; died at his home, about June 5.

ORVILLE JUAN PERKINS, Chicago; Bellevue Hospital Medical College, 1878; aged 68; died at his home, June 14, from valvular heart disease.

LUCIUS NORTON HENRY, Ripley, Ill.; Miami Medical College, Cincinnati, 1890; aged 48; a member of the Illinois State Medical Society; formerly a druggist; died in Kansas City, March 26, from gastric ulcer.

IRENE ROBINSON PRATT, Chicago; University of Illinois, College of Physicians and Surgeons, Chicago, 1901; aged 54; died at her home, May 15, following an operation.

ISAAC TODD MULLEN, Chicago; University of Buffalo, N. Y., 1884; aged 76; for many years postoffice inspector in the day mail service; died at his home in Chicago, May 12, from heart disease.

JOHN THOMAS WHITLOCK, Mount Vernon, Ill.; Missouri Medical College, St. Louis, 1890; aged 57; a Fellow of the American Medical Association; died at his home, April 30.

FRANK WESLEY SEARLES, Mokena, Ill.; Northwestern University Medical School, Chicago, 1877; aged 65; formerly a Fellow of the American Medical Association; died March 26, six days after an operation for a malignant tumor of the pylorus.

CLEVELAND JAMES SHAMBAUGH, Cherry Valley, Ill.; Bennett Medical College, Chicago, 1911; aged 32; who was overcome by heat, June 16, committed suicide by cutting his throat in a garage in Cherry Valley, June 17.

JOSEPH TATUM WHITE, Freeport, Ill.; Missouri Medical College, St. Louis, 1888; aged 51; a Fellow of the American Medical Association, and president of the Stephenson County Medical Society; died at his home, May 14, from lobar pneumonia.

HENRY DAVID SIEGFRIED, Denver, Ill.; Keokuk (Iowa) Medical College, 1898; aged 46; formerly a Fellow of the American Medical Association; while in an altercation with a tenant, May 3, was struck with a club, fracturing the skull, and died from his injuries a few hours later in Blessing Hospital, Quincy, Ill.

FREDERICH CURT HARNISCH, Chicago; University of Leipzig, Germany, 1890; aged 57; a Fellow of the American Medical Association; a specialist in ophthalmology; ophthalmic surgeon to Alexian Brothers', St. Elizabeth's, and St. Mary's of Nazareth Hospital; died in the Alexian Brothers' Hospital, Chicago, May 25, from heart disease.

JAMES LIVINGSTON WILGUS, Chicago; Medical College of Indiana, Indianapolis, 1896; a Fellow of the American Medical Association; while driving in his automobile, over a level crossing near Grand Beach, Mich., was struck by a Michigan Central train, June 7, and died from his injuries a few hours later in a hospital at South Bend.

ILLINOIS MEDICAL JOURNAL

THE OFFICIAL ORGAN OF

THE ILLINOIS STATE MEDICAL SOCIETY

VOL. XXXIV

CHICAGO, ILL., AUGUST, 1918

No. 2

Original Articles

THE WORK OF THE A. M. A. IN THE WORLD WAR.*

J. W. VANDERSLICE, M. D.

CHICAGO

The sudden entrance of the United States into the World War found the medical profession in a position that compared to many other industries was extremely congratulatory. The medical profession of America had an organization which for numbers and efficiency was in a class by itself.

The American Medical Association from the time of its re-organization had been progressing rapidly, both in regard to increased membership and efficiency. The part that the association has played and is yet to play consists in no small part in the fact that there existed an organization that had for years spoken "as one with authority" for the medical profession of this country in all matters of legislation regarding the health of the public and the welfare of the profession.

By reason of this reputation built upon a foundation of things accomplished the organized medical profession was immediately placed in a position of great responsibility. There is no gain-saying that here in the United States the medical opinion was not only welcome but sought in all matters pertaining to the gathering of an army. It may be said that for the first time in history the medical profession came more largely into its own and that the medical men were more closely in the councils of the rulers than at any previous time.

At the outset of the war the American Medical Association offered its services to the government in any capacity in which it could in any way be of service. This offer was immediately accepted.

The competence of the organization was at once manifest. The facilities of the Association's headquarters which were at once placed at the disposal of the Surgeon General included information regarding the members of the association, consisting of complete records of the membership, of all licensed physicians, of data compiled from various sources, including matters relating to the professional standing of the individual physician. There is a card index of the medical students of the United States, showing their preliminary education, the medical schools which they are now attending and the schools in which each of the years of their medical course had been taken.

Also, there is a card index of physicians giving in addition to the student record, information concerning the school of graduation, licenses held, hospitals in which they have served as internes, the places in which they have engaged in practice, etc.

A record of the membership of recognized special medical societies and associations, as well as the names of those who have registered in the various Sections of the Scientific Assembly of the American Medical Association. These records provide information regarding the specialty in which each physician is interested or to which he limits his practice. This information is supplemented by physicians themselves by statement regarding their specialty on slips sent in for the directory.

The American Medical Association by co-ordinating the constituent state medical associations and their component county and district societies reaches every part of the country and practically all of the physicians.

Last May there was sent out through the association headquarters a direct appeal to every physician in the association coming within the age limits to apply for a commission in the Medical Reserve. There was made a complete classification of all physicians into three groups,

*Read before the Secretaries' Conference at Springfield, May 21, 1918.

those under 45, those between 45 and 55, and those above 55 years of age. This all was done by and at the expense of the organization.

Since the beginning of the war, the Surgeon General through his personnel division, as a routine procedure before taking action on the applications, has forwarded to the Association headquarters the names of applicants for commissions in the Medical Reserve Corps. These names, when received are card indexed and all information concerning each individual is immediately transmitted to the Surgeon General's office.

It is readily seen that our association had at its fingertips that information which was of inestimable value to the Surgeon General at a time when the organization of a very greatly increased medical department was suddenly thrust upon him.

On April 3, 1918, the Surgeon General addressed a communication to the American Medical Association desiring the co-operation of the Association in the securing of additional men for the Medical Reserve Corps.

In this he stated that "The present needs of the service will require all the officers of the Medical Reserve Corps. The additional increase in the army in the next few months will probably necessitate the services of 5,000 physicians who as yet have not made application for a commission in the Medical Reserve Corps." He stated further that the needs for the ensuing years of the war would be 2,500 each year.

This then is the big job that the War Department through the Surgeon General has delegated to the American Medical Association.

Organized medicine is thus placed in a position of responsibility which it realizes to be a full sized man's job. Nevertheless, it is with entire confidence in the outcome that the association sets itself to the task of securing the desired results.

The War Committee of the A. M. A. met at the Association Building April 16 to consider and act upon the proposition, this committee acting under the authority of the Trustees, confirmed by the House of Delegates of the American Medical Association. This brief review of the conditions confronting the medical profession of this country, may well be emphasized by a brief summary of the situation regarding the

medical profession of Great Britain as given in the *British Medical Journal*. The Committee of Reference of the Royal Colleges in England was set up early in 1916 to consider cases of doctors on staffs of hospitals and medical schools in the metropolis, and such other special cases in England and Wales as might be referred to it. An Irish Medical War Committee was also established. Schemes were instituted by the Central Committees in England and Wales and in Scotland for the enrollment of all medical men up to the age of 45, the limit for general service in the R. A. M. C. The enrolled person gave an undertaking to accept service when called upon by the committee, and the Army Council undertook to apply to him the principle that a medical man thus offering himself should not be called upon to fulfil his obligation of commissioned service for more than twelve months consecutively.

The passing of the second military Service Act, 1916, had the effect of imposing compulsory military service on all medical men under 41. The Central Committees, thereafter called "professional committees," were recognized by an order in Council, and were entrusted with the duty of selecting at the right time in each case the particular medical man who could be spared from their civil work with the least injury to the civil population, and of retaining in their civil work those most needed there in the public interest. The Army Council undertook to refrain from applying its compulsory powers as to combatant service to a doctor of military age, and as long as he was enrolled and undertook to serve, and if required did serve as a commissioned officer in the R. A. M. C. whenever this might be found necessary by the central professional committee. When called upon he had the right of appeal to the central professional committee. If at the end of the first or any twelve months' service a medical man relinquished his commission, he, if under 41, remained liable to the Military Service Acts, but if he then enrolled he reverted to the position in which he was before he took a commission; that is to say, he went back amongst those from whom the central professional committee selected doctors for commissioned service in the R. A. M. C. subject to due consideration of the needs of the locality and his personal circumstances. The enrollment

scheme continued to apply to doctors over military age, especially those from 41 to 45 and in June, 1916, the war office announced it was prepared to give commissions to men 45 to 55 years of age. The newly qualified medical men automatically passed into the reserve and were commissioned in the R. A. M. C. subject only to their being pronounced physically fit on medical examination.

The first clause of the new bill fixes the military age at from 18 to 51, but there is a proviso that by an order in council the upper limit of age may be raised to 56 as respects men generally and it shall be so fixed as respects any person being a duly qualified medical practitioner.

The author believes that the entire medical profession of France has been nationalized.

The Surgeon General stated in his letter that he desired that the securing of these 5,000 medical officers shall be accomplished without serious hardship upon any community, manufacturing concern or other civil activity, by taking from such community, manufacturing concern or other civil activity, physicians whose services are needed for the efficient and competent care of the civil population or the employees of large concerns.

It is obvious then that if the desires of the Surgeon General are to be accomplished that a complete survey of the actual conditions existing in all parts of the country shall be taken, that the number of physicians who have already accepted commissions and the number still available in every community may be known. Such a survey is now in preparation and will be published in a short time as a supplement to the *Journal A. M. A.*

That there would be full agreement to the procedure and complete harmony in all that is done in the several states, the War Committee called a meeting of all of the secretaries of all the state medical societies. This meeting was held April 30. Thirty-eight state societies were represented and a conference in which the unanimity of single purpose and patriotic zeal was an inspiration.

As a result of the meeting the following recommendations were made:

1. That the state societies appoint war committees for the purpose of co-ordinating the profession of each state for war work.

2. That the secretaries shall immediately elicit the support of every county society in the state in order that this important matter may be brought to the attention of the physicians as soon as possible.

With this outline of the activities with which the organized profession has been engaged during this first year of the war it is manifest that the time has now come when the question of the relationship of the individual to the war work is at hand.

It would appear that it now becomes the duty of the physicians of every community to take a careful survey of the conditions which confront that particular locality, always bearing in mind that there are three parties which are vitally interested in the outcome of their decisions. The one duty which above all demands our endeavors is the winning of the war, but with this there is the duty of the care of the sick and injured of the civilian population and last there is a duty to the profession.

Our duty to the state demands that whatever requests the Surgeon General may make shall be promptly and cheerfully fulfilled. In regard to any discussion of the advisability of a draft of the medical men of this country—this is a subject that should receive no thought or expression except to condemn. Shall it ever be said that the intellectual aristocracy of this land needed to be drafted? The government may be assured that whatever the demands she may of necessity make upon our profession we feel our responsibility such that we are ready to immediately comply. The number of physicians which will be needed may be roughly estimated at 10 to every 1,000 men in the service. An army of 5,000,000 will require 50,000 physicians. If the newspapers are to be credited this requirement is in the near future. There are 81,000 members in the American Medical Association.

The civil population has its right in the matter and the organized profession must see to it that there is no community left without sufficient competent medical attention. The enthusiasm of the profession in its patriotic zeal must be so controlled that though all the physicians of a community may desire to accept commissions this shall not be done until adequate professional service be supplied.

Our Duty to the Profession.—One duty which

lies very close at hand is the relation of the medical man to the exemption and the medical advisory boards. The physicians making up the medical service in the selective draft are giving very largely of their time and talent and it is the plain duty of the physicians who are acquainted with the personnel coming under the act to give freely their professional opinion of certain persons to these medical aids. There are in each community certain registrants which may for want of a better name be called "exceptional." The family doctor may in such cases prove of great value both to the individual and to the government; as it is poor economy to send one man who will require the time of two to care for him when he arrives at the front.

The Physicians' Duty to the Organization.—It is quite possible that in the giving of so great a number of commissions that mistakes may occur. Do not nurse your grievance but at once communicate with the secretary of the A. M. A. and give any and all information that you may have. This applies not only in a personal sense but also where in the opinion of the profession a man be granted a commission whose ethical conduct has been such that he be not a representative man such information should at once be sent.

Our Duty to the Men Who Have Entered the Service.—At the last annual meeting of the State Society a resolution was passed in which it was advised that there be some financial support given to these men leaving their practices. It was recommended that a certain proportion of the income accruing to the physician remaining at home coming from the patients of the physician in the field be given to such physicians. How are the doctors of your community living up to this requirement?

Furthermore, what protection shall be thrown about the vested rights of the doctor who gives all in entering the service? What attitude should be taken by the profession in regard to physicians who are now established in practice and seize an opportunity to better their location at the expense of those who have gone? There are sure to be certain localities that are pleasant places for the practice of medicine; there will be a temptation to many men in rural communities to seek other locations in the larger centers of population; this will also occur in the cities where there

will be opportunities to better locations, some especially attractive street corner or other location that has especial advantages. It would appear that it becomes necessary that these be safeguarded and an atmosphere which will condemn the change in location of a physician who is established in practice should at once be developed.

Again referring to conditions now existing in the countries of our allies. In England all physicians from 18 to 56 years of age are under the draft. The medical profession of France has been nationalized; the author understands this to mean that all practicing physicians have been taken over by the government and are whole time employees; that all have been taken from their locations and are moved to other communities so that today no physician is among his own patients; in this way no unfair advantage can be taken of the absent because all have been removed.

That some such measure may become necessary in this country is highly improbable; this does not relieve our responsibility. Let us at once develop rules of conduct that shall be written very plainly and that the infraction of these rules will bring inevitable punishment. It must be told in no uncertain terms that the taking of an unfair advantage of a physician in the service shall bring upon the offender the brand of a pariah.

DISCUSSION (Abstract)

Dr. W. H. Gilmore (Mt. Vernon): Dr. Vander-slice's beautiful appeal sounds well. It is idealistic; the only trouble with it is that it doesn't work. As chairman of the examining board of the Medical Reserve Corps and secretary of the State Medical Society, my opinion of the loyalty and patriotism of many members of the medical profession has changed.

I have been over Illinois from Chicago to Cairo and from Rock Island to Danville. I have talked to men in their own offices, I have talked to men in meetings on this very same proposition, and I want to say to you gentlemen that there is a spirit of selfishness in the medical profession that should not be.

Just as an example—the average age in the first training camp of the Medical Reserve Corps training camp in the United States was thirty-nine years. Where were all the fellows between twenty-one and thirty-one? I have gone into communities in Illinois and in one day's time have had twenty-three men present themselves for examination for the Medical Reserve. I have gone into other communities with ten times the population and have had five men present themselves for the Medical Reserve Corps.

I have talked to as many as ten men in one county in this state at one time. The oldest man in the ten was fifty-five and the youngest twenty-six. Out of those ten men I secured one applicant for the Medical Reserve Corps, and he was fifty-two years of age. The whole story was, let George do it, let the other fellow do it. I am too important in this community. My people cannot get along without me. I cannot afford to make the personal sacrifice that my country demands.

What is the answer? The answer is the draft. I wish to take exception to Dr. Vanderslice's statement that we must not think about the draft. You cannot draft the medical profession, as a matter of fact, unless you draft everybody in the country, which would require a special act of Congress. Here is where you are today—in order for Illinois to furnish the quota demanded by the surgeon general three hundred men must have been examined between now and the first day of July. That will give us 2,089 men or in the neighborhood of twenty per cent. of our total population. These are American Medical Association figures I am giving you. Some counties in the state have gone over twenty per cent. Most of them are under. I cannot at this time give you the exact number in the service, because Dr. Craig, of Chicago, advises me that the last data will not be up until the first of June.

Now is the time for us to discuss and try to adopt some plan to bring these men into the service. I attended the Conference of Secretaries in Chicago, and I went from that meeting to a meeting on States Activities of the National Council of Defense in Washington. The same idea was prevalent in both places, that we must devolve some way of getting the necessary quota. I believe, and it was the consensus of opinion among the secretaries at this conference, that a direct appeal from the War Board of the American Medical Association, or from the American Medical Association, to each individual physician who is not in the service will do more than any other one thing to make the men think. But from my experience with the medical profession, I do not believe it is going to get the number in the necessary time, so it is up to each individual secretary of each component society to get together with his membership and adopt some way to make the fellows go that don't want to go that should go.

There has been more than one plan suggested. What is going to be fair? It would be absolutely unfair for any one man or any three men in any county to say which men in that county should go. It is absolutely unreasonable for any one man or several men in the American Medical Association or the Council of National Defense to say which men shall go. It is up to you and to me and to every member of this State Medical Society to find out how we are going to get those three hundred men.

I believe that Perry County has the solution. I am going to ask the chairman to call on some of those men to show what they will do. I will tell you in a few words now: They need five men to bring up

their quota to twenty per cent. They can't agree. Some men think they can't afford to go. Some men don't want to go. Some men are physically disqualified, but there are enough men under fifty-five years of age in that county to bring their quota up.

They are going to go to each man and say: Here we have agreed among ourselves to draw to see who are the men who are going to apply for a commission in the American Medical Reserve Corps. They are going to take a blank slip, and on five of those slips they are going to put a black mark. They will draw, and the fellows that draw the black mark are going up and take their examination like men. Can you conceive of any man that would refuse to draw if that thing was put up to him?

Then the financial question arises. Congress has seen fit to enact a law allowing medical officers commutation of quarters provided they had dependents. Heretofore, when an officer was furnished commutation he did not secure this extra payment. Now if he has dependents he gets that in addition to his pay, if the rooms are actually occupied. In addition, if he is ordered to foreign service, he secures ten per cent. pay on top of that. A man can go in as a first lieutenant in the United States Army Medical Reserve Corps on a pay basis of approximately two hundred and four dollars a month, or a little bit more, if he is in service. None of our families, if they live the way they are now living and have more than one child, can live on two hundred and four dollars a month; but if they live the way they must live if we are going to win this war, they can live within two hundred and four dollars a month. The man, if he lives within his means in the army, can send home a hundred and twenty-five dollars a month.

In many of the draft boards, physicians in the draft age, because they had a wife and one child, were placed in the fourth class. What does that do? It says that that man, because he has a dependent, shall not go to work for the Government for thirty dollars a month and carry a gun. Remember that that man does not need to go in as a private at thirty dollars a month. He goes in as a commissioned officer with a pay of approximately two hundred dollars a month, and if he does not go in, he is a slacker. He is taking advantage of the draft law, and it was never intended to work that way. There are many of those men in this country.

Each man who has had a commission for a number of months and has not accepted it is going to get in bad with the surgeon general. There is going to be trouble started with that man, and he will wish he had accepted that commission or given a reason why.

As an instance, I examined a man last June who was very anxious to get into the Medical Reserve Corps. He couldn't wait to get the commission. When it came, it was a first lieutenantancy. He thought he ought to be a brigadier general or something higher. He didn't accept it. About the same time, some seven or eight men left the town in his vicinity and went into the training camps. What did that chap do? He moved into this town and started a private hospital.

What do you call that? Is that patriotism, or is he a slacker?

What we have to do is to get three hundred men between now and the first day of July. How are you going to get them? I am going to read you a list of each county in the state and the number of men it must furnish. Some of them are over the top now, and this is based on the figures of the Americal Medical Association of twenty per cent. of the entire medical profession of the United States—not members of your society, but the entire medical profession; you can't leave out the quacks; but a quack cannot go and a woman cannot go, so it is up to the regular members of the various societies to make up the deficiency.

The surgeon general of the army and the surgeon general of the navy are both anxious to get these men. They must have them. I want to say that this five thousand is not going to be the end. There is going to be another call for five thousand in October. They have got to come. How are you going to get them? I would like to have some decision reached this afternoon, so I can take it up with each county secretary and see what they are going to do.

Understand me, the figures from which my figures are taken are several months old. All I can do is to tell you how many men each county must furnish, and that is what I will attempt to do now. (Reads list.)

If your county has accepted more commissions than the number read they have gone over the top.

Dr. Templeton stated that in reply to the first communication from Dr. Martin in regard to our medical men the Perry County Society decided that they could see no way for Perry County to furnish any more men except by the draft. After a second letter from Dr. Martin and an interview with Dr. Gilmore it appeared that the only way for Perry County to furnish its quota was for us to volunteer to cast lots to see who should go, who should be examined for the Medical Reserve Corps.

After suggesting that to a number of men he found that men, who before had not thought of going, agreed to this proposition readily. A few have not yet agreed to it, but he believes that it is the only solution.

His proposition is to draw every name out of a hat, the one with the lowest number to go first, the next one next, and so on, as long as this war lasts, if it takes every able-bodied physician out of Perry County.

Further, Perry County can be divided into sections. With about five eligible physicians, let us say, on one side of a certain line, and about ten on the other, we can draw two men from one side and one from the other.

He believes that every county is that short in its quota can do the same thing.

Dr. McClanahan said that he practiced in a county where most of the physicians have rural practices, but he had heard that there was no need of general practitioners, and that the men who were wanted ought to be surgeons.

Dr. Gilmore, in reply said: Not one word of the

kind has ever come from the surgeon general's office or the Council of National Defense or the A. M. A. They need qualified men. The surgeon general has a place for you, and the quicker you get in the quicker we will win this war.

Dr. McClanahan thought the suggestion made last year at the conference that fifty per cent. of the amount collected from patients of doctors who have gone into the service by doctors who are here be given to the ones who are gone is absolutely an impractical thing to try to do.

Dr. Gilmore had heard the same thing from more than one county in the state. You cannot tell what a man's practice consists of, and the counties must figure this thing out for themselves.

One county society has decided to pay the wife of each man in the service so much money if each doctor in the county will donate so much. But a man drawing two thousand dollars a year plus his ten per cent. for foreign service and commutation and light and heat can take care of that family, unless it is too large, and if it is too large, he ought not to go. Financial responsibilities can wait. That is taken care of by law. He has no responsibility until a year after he quits the service. And when a man comes back from this war, if he does come back, no man will make me believe that it won't prove to be a wonderful advertisement for him and his practice will more than come back. I don't believe that the men who are going into the service for this much pay are deserving of so much sympathy.

Dr. E. W. Fiegenbaum: I am from Madison County. Our quota, as your secretary has told you, is twenty-three. Eighteen have gone into the service, three have their commissions awaiting orders and three have applied, been examined, been accepted and are awaiting their commissions. So you see we are not bothered about that, and if another call comes we can furnish twenty-three more, and they will be furnished, and furnished promptly.

The thing that particularly appealed to me in Dr. Vanderslice's paper is the remark that some man would slip in and occupy the territory of some man who had gone to the service.

We of our county have already adopted a principle to frown down any such attempt as that. We are going, as far as we are able, to protect the practice of the man who has gone to the front. A large per cent. of the men who have gone to the front have done so at the call of their country, without any arrangement as to their practice that they have left behind, but undoubtedly with the idea that when this war is over and they are fortunate enough to come back, they would desire to come back to their old stamping ground and to resume the practice where they had abandoned it. We of our county are going to see that that place is open for them when they do come back. That can only be done by a concerted effort. When a stranger comes into a community and takes up a practice that has been abandoned by a man going to the front he will be waited on by a com-

mittee and informed that during the duration of the war he may remain there, if he so chooses, but just as soon as the war is over and these men who have established practices come back, we expect that those men will get their old positions again in the communities in which they have lived. I think it is a very important matter, and I believe that idea ought to receive serious consideration at the hands of all of the members of the profession in the several communities in Illinois.

Dr. DePercy, noting the per cent. of the doctors of the country ineligible for membership in the army on account of age, offered the suggestion that the Illinois State Medical Society as a body memorialize Congress, asking Congress to pass an act enabling the Government to accept the volunteering medical and surgical service of every able-bodied and qualified physician in the several states of the country. There are a good many physicians in the several states of this Union that happen to be more than fifty-four years young. They are not asking to be excused from their work, and they are doing in their private practice from eight to twelve and fourteen and often sixteen hours of work a day.

Dr. Gilmore: There has been organized a voluntary medical service board to be composed of men who have been rejected in the Medical Reserve Corps for physical reasons and for men over age. The data on this new corps may be obtained from Dr. Edwin Davis of Philadelphia, who is chairman of this movement. This body of men will be subject to call for service in any place in their vicinity to do anything asked of them by the War Department. They will be given appropriate insignia in the form of a shield a little bit like the selective service shields and will be subject to call.

That subject has all been discussed and thought of in the surgeon general's office. Those men cannot be called for active service, but they can do many things in this country, and one of the things that they can do is to protect the practice of men of the military age who go into the service. I think their field is as large as the other. I think as much good can be done by the men who remain at home as by those who go into active service, because we have people at home that must be taken care of in order to win the war.

Dr. Burhans (of Peoria) reported just about over the top with two hundred six physicians in the county and something like thirty-seven in the service.

A good many men who are not members of our medical society, who pride themselves as not being members of the medical society, perhaps should be looked into as well as the others. There are many capable men outside of the medical society who should be drafted if there is going to be a draft.

Dr. Sloan (McLean County) stated that his society appointed a war committee to represent the society in its business relations with the committee of Dr. Gilmore's. Twenty men have been examined for the service now for a quota of twenty-five. He thought the list of the counties and their quotas should be a matter of more extended knowledge, and suggested

that it be printed at once and given to the delegates.

Dr. Price (of Robinson) said that his society had not considered the financial side in the case of the families of the physicians who have gone to the war, but had appointed a committee to visit these families, correspond with them and try in a number of different ways to do little acts of kindness. Out of twenty-eight physicians in the county, six have gone to war. One of his partners has gone, and his wife receives a check every thirty days for his share of the income of that firm the same as she did when her husband was at home.

It is hard to tell whose patient anyone is today, on account of the fact that families change around so much from one physician to another; but we are determined that no woman and her children shall suffer from the effects of her husband being in the army.

Dr. Cunningham (Rockford): Winnebago County has a membership of eighty-six members, with twelve men in active service; five have failed to pass the examinations, and four or five are waiting for their commissions.

Dr. Ball (Quincy): After discussion in Adams County Society last June our president appointed a committee of five, of which I happen to be a member. We decided to leave the matter entirely with the patient. Each physician was furnished with a certain number of cards, to read something like this: "I, the undersigned, do hereby certify that Dr. So-and-So has been my physician for a certain time past, and if he were here I would employ him in this case."

If a patient is perfectly willing to sign that card, the physician must turn over thirty-three and a third per cent. of the amount he collects from that case to the wife or the dependent of that physician. This plan has worked very well.

Dr. Bowe (Jacksonville): There is going to be a great deal of work to be done in this country. For instance, in the way of reconstruction work and the rehabilitation and the rebuilding of these returned men. If a great many who are now anxious to enter the service in some capacity will be patient the War Department will find the best and the most suitable place for them.

They know the age and fitness of men that are able to stand the work in certain lines. We have the experience of the allies before us and also that of Germany, and the people in charge have given this thing constructive and serious thought. While I know they would be glad to receive any help or suggestions, I think it best for us not to interfere at this time.

The pay of the army officer is largely net. Where is the average man in the average community who makes any such pay as that? Besides the man and the woman at home in practice has a cost of doing business.

Dr. Burdick (Cook County): I would like to ask a question of Dr. Gilmore. I would like to ask him whether there has been a connection between the Navy and the Medical Reserve Corps, and just what that connection is?

Dr. Gilmore: There is no working connection. I probably neglected to say that in addition to these five hundred men, the Surgeon-General of the Navy wants one hundred each month for twelve months, and the age has been increased to forty-four.

Dr. Burdick: What is their rank in the Navy?

Dr. Gilmore: They go in as second lieutenants, which ranks about the same as first lieutenant in the army. It seems to me we are talking around the subject. What we want to know is how to get three hundred men by the first of July. I want to do anything that you fellows want me to, but we have got to get that three hundred men somehow and some place.

Dr. Vanderslice: Dr. Gilmore talks about the failure of the first call. I think the failure of the first call was all on account of the point of view.

Dr. Gilmore also says that he found selfishness in the profession. Isn't that surprising? I can hardly believe it.

The medical profession is naturally egotistical. They must be egotistical because of their very relationship. They come in contact with the subnormal. If they meet a live wire, they meet him when he is subnormal, when he is ill, when he needs help. The medical man who is not egotistical is quite as uncommon as the one who has no selfishness.

Dr. Gilmore is very much exercised about three hundred doctors by the first of July. There are four hundred doctors who will graduate in medicine before the first day of July in the state of Illinois. So far as I understand it, we have now some twenty thousand men who have applied for commissions in the Medical Reserve Corps. There have been between eighteen thousand and nineteen thousand, approximately, who have accepted their commissions. That is sufficient to take care of the draft which is now called. We have now to take care of the ensuing draft, but there isn't any great emergency, from my point of view.

I will not believe that the medical profession needs to be drafted. I believe that we could go out with the right sort of propaganda and get twenty-five thousand men in the next ten days, if the medical men of this country knew that we needed twenty-five thousand men. Call this a voluntary draft, if you want to. It is a draft in the sense that we must give these men, but we will not be drafted; we will volunteer first.

I am very glad that the last speaker brought up the economic condition. Dr. Gilmore talks very differently from the men in my neck of the woods. If two hundred dollars a month is less than any family of the doctors' can get along on around Mr. Vernon, we can teach a lot of things to those doctors, if they will come to Cook County. We will give you a long list of men whose families do get along for a long time on less than two hundred dollars a month.

In many communities are men who have accepted their commissions and have not received a call, and their patients have gradually drifted away. I have met men in the last two weeks who accepted their

commissions as long ago as last October and who have not received a call. They said: "I know nothing about it. I accepted my commission. I sent word to the Surgeon-General that I would go when needed." The Surgeon-General plainly stated in his letter that every man who had accepted a commission would be needed to fill the quota that was needed for this past draft. I said to these men: "If I were you I would write tonight to the Surgeon-General and see what is the matter." Those two men each, inside of seventy-two hours, had orders to report at forty-eight hours' notice—they weren't even allowed the ordinary fifteen days' notice. So, if you have accepted commissions and you have not your appointments, be sure that there isn't a leak some place. Perhaps you are classified wrong. Write to the Surgeon-General. Stop this nursing of grudges, and find out what is the matter. Everything is fair. Everybody is trying to do the best he can, but you are not going to get an army of three million men together without having some little disorganization. I thank you very much.

Dr. Gilmore: I have nothing to add, except that I have come in personal contact with these fellows. Nobody ever said that this thing had to be done now, because there are enough men at present to take care of what they have called. If the Surgeon-General didn't want these men, why did I hear him say with his own mouth that he wanted five thousand men by the first of July? Our quota is three hundred. It is up to us to get it and not talk about it.

PLASTIC SURGERY.*

LAWRENCE RYAN, M. D.,
CHICAGO.

Plastic surgery covers a wide range of indications and operations for the relief of disease, the improvement of function, or the repair of some congenital defect.

Since the advent of aseptic surgery, operations for the relief of defects—functional and actual—have multiplied until practically every tissue of the body has been the subject for plastic reconstruction. The results, in the main, obtained in the varied applications of plastic surgery have been nothing short of marvelous. This is true particularly in regions of the body, before the time of the Lister period, considered inaccessible; when the opening of a cavity as a *knee* joint, the *peritoneum*, or the *thorax*, usually meant the *death-sentence* of the patient.

Now that every region of the body has been the subject of a plastic operation, the condition is just the opposite of what was generally accepted before Lister's time. The *exceptional*

*Read before the Chicago Medical Society, Feb. 20, 1918.



Fig. 1. Carcinoma of cheek that had resisted X-rays and radium. The mass was dissected out and closed by a flap taken from the same side of the neck. The transplanted flap healed by primary intention and the final result is shown in cuts 2 and 3.

case is the one that is lost—the *majority* recover.

A great deal has been done and is being done along the line of plastic surgery by the various endowed medical foundations—as the Rockefeller, the Mayo, the Leland Stanford, and others.

The State University forces have also organized to do research work; they call it experi-

mental medicine and surgery. Considerable work has been done, but what has been done is only a beginning.

Progress along the lines of a distinct advance in plastic surgery with relation to prognosis and treatment has been by slow stages. Laboratory methods along experimental lines have not shown much practical improvement—a few brilliant experiments of grafting and anastomosing of vessels have been reported from time to time in the literature. These experiments have borne little fruit; neither the general surgeon, nor the surgical specialist has made any extensive, practical tests as to their real value, as far I am aware, from a general survey of the literature. There seems to be no well co-ordinated ground on which the laboratory investigator and the surgeon have met. The methods found by repeated clinical procedures, that have been of material assistance in a given case or in a series of cases more or less related in their analogy, has determined the practice and continuances of surgical procedures that collectively constitute what surgeons consider safe surgical treatment. Many of these methods with slight modifications are to be found in most textbooks on surgery.

They have been deduced by sound judgment and fortified by extensive clinical experience in the large surgical clinics the world over. Most



Fig. 2



Fig 3



Fig. 4. Nose partially destroyed by a "cancer" paste used by the patient to remove an epithelioma of the nose.



Fig. 5. Result four weeks after grafting a pedicled flap taken from the arm to the tip and side of the nose.

of these procedures have distinct indications. The indication determines the practice until by experience resulting in failure or success, the operator determines for himself what seems in

his hands to be followed more frequently by success than by failure. This finally determines (as far as that particular operator and perhaps his intimate colleagues), a method superior to all



Fig. 6. Epithelioma of cheek that had resisted X-ray treatment. The lesion was widely dissected and skin flap slid forward from side of the face. Seen in No. 7.

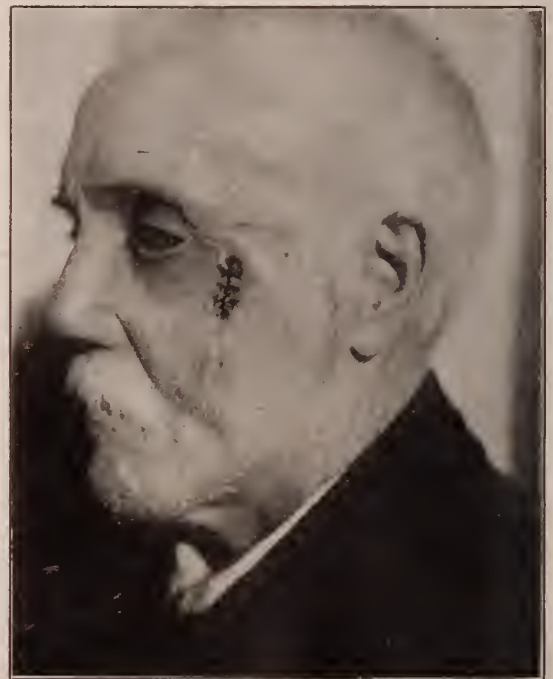


Fig. 7. Skin flap in front of the left ear slid forward to cover defect. Iodine stain shown and three stitches still in wound.



Fig. 8. Side of nose destroyed by epithelioma. Graft taken from cheek and slid on to side of nose. Then another flap from cheek mobilized to cover defect made by first flap's removal. Result five years later.

others. Changing conditions and environments often require a modification of methods.

This being the case, it behooves us to carry out the principle of any operative procedure faithfully and to record any clinical advance that can be used for the relief of similar afflictions, however small or unimportant they may seem to us. The sum total of all these apparently disconnected clinical data will constitute what will be in the future considered sound surgery and will not only be a means of encouragement to our colleagues, but will be of distinct benefit to mankind. We not only learn from our successful cases, but often much more from our failures. If our failures are so valuable to us, and they certainly are, they are also of distinct benefit to others. If we all remember that we cannot create life we simply aid nature and try to prolong in comfort and perhaps usefulness the life that is temporarily entrusted to our care, we will hesitate less to report failures; because the report of failures is the only control check the beginner has to get his bearings.

Many operations and technics will be devised,

and in the end a few will stand the test of time, and what is of *more importance still*, be adapted to common usage, for the object that we are striving after—the relief of human ills.

In the application of plastic surgery, one must consider the condition or the disease present and its eradication at the time the plastic work is attempted. This is of *first* consideration. Usually a defect can be repaired in tissue, (whose loss is to be conserved), in one-quarter or one-third the time that the thorough painstaking removal of disease requires. If tissue is abundant of course this is not true. *Second*, the removal of sufficient tissue to cover the defect is usually one-half larger than the defect. *Third*, due consideration of the blood supply of the transplant. In bone, we were told by Dr. J. B. Murphy, that asepsis and bone contacting were essential for bone healing. In the soft tissue the blood supply, immobility of the part, and absence of pressure or tension, are of the utmost importance.

The consideration of the above conditions must be carefully weighed on one side of the balance against the patient's resistance, tracta-



Fig. 9. Bridge of nose destroyed by lupus erythema. Pedicled flap taken from the forehead was used to close the defect. (The white line is due to the photographer's attempt to show scar line. Scar line seen to left.)



Fig. 10. The soft tissues of chin and whole lower lip destroyed by recurring carcinoma of the lower lip.

The chin and lower lip reconstructed by sliding a flap from beneath the chin upward. Defect under chin closed by sliding the skin of the neck upward.

The scar line on chin due to incision used in former operation to remove submental glands.

bility, age, etc., on the other. In many cases, weakened by disease and suffering, the question to be considered is not the repair of the defect as much as the patient's vitality. In other cases it is advisable to do the operation in two stages, as in carcinoma of the tongue, or of the face, and the removal of the lymph glands of the neck, in the so-called blocking operation as advised by Dawborn and Crile. The same question comes up for consideration in carcinoma of the lip or the face and removal of the submental or other glands. Will the patient stand the one extensive bloody operation as well as two lesser ones? We can always be controlled by the indication. Rarely or never does a patient die of carcinoma of the tongue or the lip. Some authorities say never. They invariably die of metastasis. Hence the gland consideration is the one of *primary* importance in regard to life, and the primary defect as cancer of the lip or tongue is *secondary*.

The effects of our therapeutic efforts on the disease to be eradicated and the tissue to be transplanted must be carefully considered in

wound healing and in the prognosis. We have had the misfortune to operate upon cases treated by repeated and long continued doses of x-rays and radium and arsenic as applied in the so-called cancer cures. We have also operated on cases untreated. If there were any ways of determining beforehand by reactions, cell characteristics or otherwise just what cases would be most likely to be benefited by x-ray therapeutics or other curative measures, it would hasten the repair by weeks and often by months. One of the cases that we shall show you on a lantern slide was treated for sixteen years by means of x-rays, another seven years, and a third was treated by both x-rays and radium, and then given up by one of the foremost dermatologists and x-ray experts in America.

The tissues in these cases, treated by prolonged applications of x-rays and radium, show a decided lack of resistance. Although the tissues are apparently very vascular, there is a lowering of the vitality of the fixed tissue cell, just as there is in the newer and embryonic or malignant type of cell that is causing the destruction of tissue. These tissues that have been x-rayed must be treated with the utmost care. Tension and pressure, in spite of the apparent vascularity of the tissues result in partial or complete failure. For this reason, if the disease is not progressing rapidly, a period of rest from x-rays and radium treatments will insure better wound healing. The same holds good in chronic skin inflammations, such as lupus erythematosus and psoriasis that have been x-rayed.

The transplanted tissue, if possible, should be of the same type as that in the location to be repaired. In time a whitened area of hairy skin on the face becomes less hairy and more nearly the color of the normal tissue, if transplanted to a hairless or ruddy location as the nose, the cheek or the forehead. For this reason Tiersch grafts are not as satisfactory as the larger grafts from an adjacent location. Tiersch grafts are uneven in thickness and in pigmentation.

Tiersch grafts sometimes fail to grow and mature under conditions that appear identical with those under which they grow successfully in another subject.

They sometimes will grow under a similar technique at a later period when a patient has been restored by time and proper treatment to a more

robust condition of health. (Though age apparently has no effect on skin grafting.) They are for these reasons not ideal for repairing visible defects.

Autogenous skin grafts usually heal under proper conditions whether they be Tiersch, Wolff or pedicled. Of the three varieties the pedicled graft is by far the most certain of growth and the most satisfactory where the graft covers a visible area or where a large range of mobility is required and the destruction of the deeper tissues has been considerable. This is particularly true in a graft on the palmar surface of the hand, or, where the dorsum has suffered severe involvement of deeper tissue. In not a few of these cases joints must be resected and atrophied, sectioned or lost tendons, restored before the graft is applied. It is in cases of this kind that the large flap, with a thick coat of panniculus adiposus is an advantage and even an absolute necessity. The object of this flap being to replace the normal tissues that have, by their contraction, crippled the part, and whose thorough dissection and removal is imperative.

There are two indications for treatment. First, complete eradication of the existing disease; second, the repair of the defect caused by the removal of the disease and the restoration of the part to its proper or partial function.

A majority of these cases impose a still further obligation, and as we know from a considerable experience the patient wants to be left as nearly normal in appearance as possible. He will under-

go untold hardships to be restored to the normal. This rule has no exceptions and is an aid both to the operator and to the patient. His cosmetic result may be of as much importance to him as the eradication of his disease. What is the use of life if he is not in a condition to seek and to earn a livelihood, is the view that the patient who wishes to support himself takes.

The elective operation for the restoration of function is usually an aseptic one. Transplantation by whatever means of bone, tendon, fascia, skin, etc., is attempted with function as its purpose. This in itself is difficult. If to this you add the responsibility of removing radically malignant disease the difficulties and the responsibilities increase greatly. This is true of the exposed portions of the body. Therefore, plastic operations attempted for the removal of disease are difficult and require infinite patience, constant supervision and the highest grade of optimism. Plastic surgery requires an intimate working knowledge of the anatomy of the part. Your flap may be well planned and beautiful, all to no purpose, if your nerve supply or your blood supply be deficient or absent.

The thorough eradication of the disease usually malignant is essential at the first operation. In addition to this the careful removal of all adjacent lymphatic structures and fascia by knife or by cautery should be done. A flap or border that looks perfectly normal may contain a few cells—just a few—that appear of no consequence now and in a few months in spite of



Fig. 11. Carcinoma of cheek, starting in the mucous membrane of the mouth. Whole lower anterior cheek cut away.



Fig. 12. Defect closed by sliding a flap upward and forward. Scar on the neck shows where the incision was made to remove lymph glands on that side.



Fig. 13. Contracture of the palmar surface of the hand, due to a crush-burn of the palm.

The hand was placed under a raised skin flap of the back until the flap had united to the dissected palm. Result eighteen years later.

the attempt of the normal and the fixed tissue cells to envelope or destroy them, these cancer cells break through and their activity knows no bounds. This is true of some of the epitheliomas. By far the greater number are cured in the earlier stages by the x-rays or radium or both. Not infrequently that nodule persists. It is x-ray or radium immuned. Spare no time on these growths in study in vivo nor in experimental therapy.

These cases that have reacted slowly to x-rays or radium or have reacted only to become non-active to these agents and finally reach a stage where x-rays and radium act as a stimulant and what was before a quiet non-reactive nodule becomes a fulminating growth, manifesting the greatest activity, that nothing except the knife or the cautery will check, should be destroyed as soon as their behavior can be determined.

Do not be misled by the apparently encouraging pathological report as to the probable layer from which a cancer of the skin arises. Remember only one thing. That it is a cancer and be governed accordingly.

Many of these patients are elderly and a few are very old people. They recover very well after one or more operations, not too severe. Not so if the number of operations is increased, or succeed one another rapidly. The vitality of younger years is lacking. This is of importance where a two-stage procedure is indicated; where the primary lesion and the adjacent glands, fat and lymph structures must be removed a two-stage

procedure is often advisable. It is usually less liable to infect so much tissue and is often less hazardous than a one-stage operation.

In younger and more robust subjects where all tissue is removed that should be, one follows and checks by frozen section and by microscope, the borders of the flap or suspicious areas or lymphatic trunks. This is very slow but safe, usually. In the more debilitated the free use of the actual cautery is indicated.

We have found large pedicled flaps to be of the greatest advantage. If cut the full thickness of the skin and subcutaneous tissue with at least one convex border they can be transferred long distances and when healing occurs they are nearly the color of the surrounding skin. This is especially true when the flap turned or reflected contains a large blood vessel through its center, as in the Monks-Horsley operation. These flaps should be allowed to become fully vascularized before the pedicle is cut. Two weeks is not too long if there is no indication for the pedicle being cut sooner.

We have found that the appearance of a line scar may be very much improved if the concave border has cut from it a "V" shaped flap with the base of the "V" toward the suture line. This



Fig. 14. Portion of nose destroyed by an epithelioma. Skin graft taken from anterior surface of arm.

allows you a straight flat convex and a concave surface for suturing. Otherwise there is always puckering from redundancy. Some advise, instead of one "V" the removal of many "V" shaped pieces. This only increases the multiplicity of scars.

Suture material depends upon the condition present. Horsehair is an ideal suture where there is no tension. It is safe, elastic and in tissues that have been devitalized by x-rays and by radium, and will not stand rigid tension, it is invaluable. A skillfully planned flap may be destroyed by inattention to the devitalization of tissue by x-rays. Tension too great upon your flap is followed by a slough.

Hemostasis having been controlled, the line of suture is left exposed or sometimes (during the first forty-eight hours) is coated with a film of Tr. benzoin compound or iodine. If oozing of serum or blood occurs a sterile sponge is used until crusts form. They usually stay undisturbed until the sutures are removed. This is often done on the face on the third or fourth day.

If the tissues hold without spreading, remove all sutures. If the scars are about the face it is well to remove sutures in about one-half the period they remain in ordinary wounds, otherwise the sutures leave pits in the skin. Most of our work along this line has been for indications about the hands and face. The primary object was to remove malignant disease that was not amenable to the x-rays and radium. The cosmetic effect was always a secondary consideration.

The data and photographs and lantern slides used in illustrating this paper were taken from cases occurring in the private practice of the author, and from his surgical service in Cook County Hospital.

THE DIAGNOSIS AND TREATMENT OF TUBERCULOSIS OF THE KIDNEY.*

DANIEL N. EISENDRATH, A. B., M. D.
CHICAGO.

This paper is primarily intended for the general practitioner and hence I shall attempt to make it as non-technical as possible. There are three salient facts which must be borne in mind

before a clear conception of this disease can be obtained. These facts are:

1. The tubercle bacilli are carried to the kidney through its afferent blood vessels in about 90 per cent. of all cases.

2. The disease is primary in, and is only present in one kidney for a period of months to years, in about 90 per cent. of the patients.

3. From the primarily involved kidney, the infection is carried in the urine to the bladder, and unless this primarily invaded kidney is removed at an early period, the infection spreads



Fig. 1. Specimen of kidney showing early stage of tuberculosis. Note how one large cavity occupies the greater portion of the upper pole. There are many miliary tubercles to be seen on the mucous surface of the renal pelvis, and there is great thickening of the peripelvic tissues, which favors obstruction to the outflow of the infected urine of the renal pelvis.

in an ascending manner from the bladder to the non-infected opposite kidney.

If you will keep these three essentials in mind, I feel confident that you will agree with me that better team work in the future between the general practitioner and surgeon will enable us to detect and operate upon these patients when the disease is still a unilateral one.

The rapid progress which our modern diag-

*Read at the 68th annual meeting of the Illinois State Medical Society, held at Springfield, May 22, 1918.

nostic methods have enabled us to make in the early recognition of the various surgical lesions of the genitourinary tract are beyond the conception of one who has not been able to keep in touch with it. -I shall, therefore, only attempt to give you the essential features of the subject.

Pathology.—The most frequent place of lodgment of the tubercle bacillus in the kidney is in the papillæ at a point where the finer divisions of the renal pelvis receive the urine directly from the kidney parenchyma. From this primary focus the infection is carried by way of the intrarenal blood and lymphatic vessels to all por-

mitting (a) the bacilli to escape into the urinary stream and pass on to the renal pelvis, ureter and bladder, or (b) the blood vessels to be eroded and the hemorrhages to occur which are so characteristic of the early clinical history of the disease.

The destruction of the remainder of the kidney is only a question of time. As a rule, this process is a slow one, extending over a period of months to years and one may find all stages from that of multiple small or large foci (Fig. 2) to that of the conversion of the kidney into a series of pockets or sacs (Fig. 3) containing



Fig. 2. Intermediate stage of tuberculosis of the kidney. Note how lower half of parenchyma has been destroyed and also a large portion of the upper half.

tions of the kidney, so that the question of whether one can resect the primary focus may be readily answered in a negative manner. Massive primary invasion of a large portion of the kidney occurs in such a small percentage of cases that we may overlook it for practical purposes.

The primary focus rapidly undergoes the changes so characteristic of tuberculosis elsewhere, viz., caseation and cavity formation so that at an early stage the mucous membrane covering the papilla (Fig. 1) is destroyed, per-

liquid pus or a thicker caseous putty like detritus. There is one point in this terminal stage to which I would especially direct attention, namely, that even though the kidney seems to be completely destroyed, active bacilli are still present and such an organ may be a constant menace to the patient in one of two ways, first the process may be lighted up at any time and cause death from a generalized miliary tuberculosis in spite of an apparent anatomical cure, and second, the opposite non-involved kidney as well as other im-

portant organs like the heart, liver and spleen show the effects of the constant absorption of the toxins, in the form of interstitial processes in the opposite kidney and of amyloid changes in the other viscera.

I wish to impress these facts especially in view of the attempt made by some to treat the disease even when it is still confined to one kidney, by medical, i. e., non-operative measures. They point to the complete destruction of the kidney as proof of the harmlessness of keeping such a kidney in the body and to the temporary absence of symptoms as a further proof of the cure. If

To return to the pathology, we find that the tissues around the kidney become involved to a variable extent. In some cases abscesses are formed at a comparatively early period in the perinephritic tissue, simulating the clinical pictures of either acute or more chronic pus formation around the kidney. The acute picture is only seen when pyogenic organisms are present in addition to the original infection with the tubercle bacillus.

Another pathological form of perinephritic involvement in tuberculous is one with which every surgeon must be familiar if he wishes to



Fig. 3. End stage of tuberculosis of the kidney. Note how entire parenchyma is replaced by a series of cavities which were filled with caseous detritus.

such men could only see the sad cases which are brought to us, too late to operate after such expectant treatment, I feel sure that they would desist from this nefarious practice. When the disease has become bilateral or there are foci elsewhere in the body so extensive as to render operation inadvisable, then medical treatment has a place, but then, of course, only as a palliative measure. Let me again emphasize that autonephrectomy, as it has been called, is not a cure, but simply a temporary cessation and a permanent menace.

avoid a fatal accident during operation. I refer to the enormous thickening of the perinephritic capsule (Fig. 5) so characteristic of this disease, a condition which compels one at times to employ a technic for removal of the kidney to be referred to again under treatment.

We have seen how the infection spreads to the other portions of the kidney and to the tissues around it; let us now follow the disease in a downward direction. The changes in the renal pelvis, ureter and bladder are practically the same. Formation of submucous tubercles singly

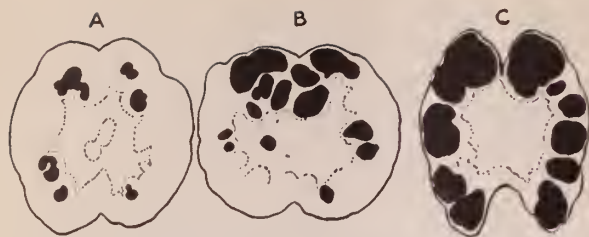


Fig. 4. Diagrammatic representation of manner in which kidney is gradually destroyed by tuberculosis.

or in groups followed or not by ulceration of the overlying mucous membrane with extensive thickening of the entire wall of the respective structures is the usual sequence. Strictures may develop at any level of the ureter from cicatrization of the ulcers, resulting in the development of a hydro-ureter or hydronephrosis of variable extent. Such a narrowing of the urinary tract or its obstruction by plugs of pus may give rise to the clinical form of the disease which is so extremely difficult to recognize called a closed tuberculous pyonephrosis because practically no urine or pus can escape in these cases. But even here we can frequently make a diagnosis by utilizing one of the newer methods known as pyelography to be referred to later.

The bladder changes are the most important from the standpoint of recognition of the disease and one must be thoroughly familiar with them in order to be able to interpret many of the early symptoms. The first effect of the infection in the bladder is a swelling and congestion of the ureteral orifice of the primarily involved kidney. From this through the intermediate stage of submucous tubercle formation to that of ulcer formation is only a question of time. These changes result in the so-called golf hole ureteral orifice, a retracted, rigid, gaping opening so characteristic of this disease (Fig. 6). The remainder of the bladder becomes rapidly involved and tuberculous ulcers covered with flabby granulation tissue are seen throughout the mucous membrane, so that the act of urination becomes more frequent and painful and the bladder unable to hold more than a few ounces at a time. Up to this time, the opposite ureteral orifice is not involved, but this soon takes place and the bacilli ascend along the lymphatics of the ureteral wall to the kidney and this soon becomes the seat of the same changes as took place in the primarily involved one. Let us draw

the curtain over the sad picture now because it is only a question of time before death from uremia occurs.

I have devoted so much time to the description of the essential points in the pathology because I feel that without a clear picture of these changes the interpretation of the clinical symptoms of our findings by the cystoscope, ureteral catheterization, pyelography and other modern diagnostic methods, under which the disease appears must remain a sealed book.

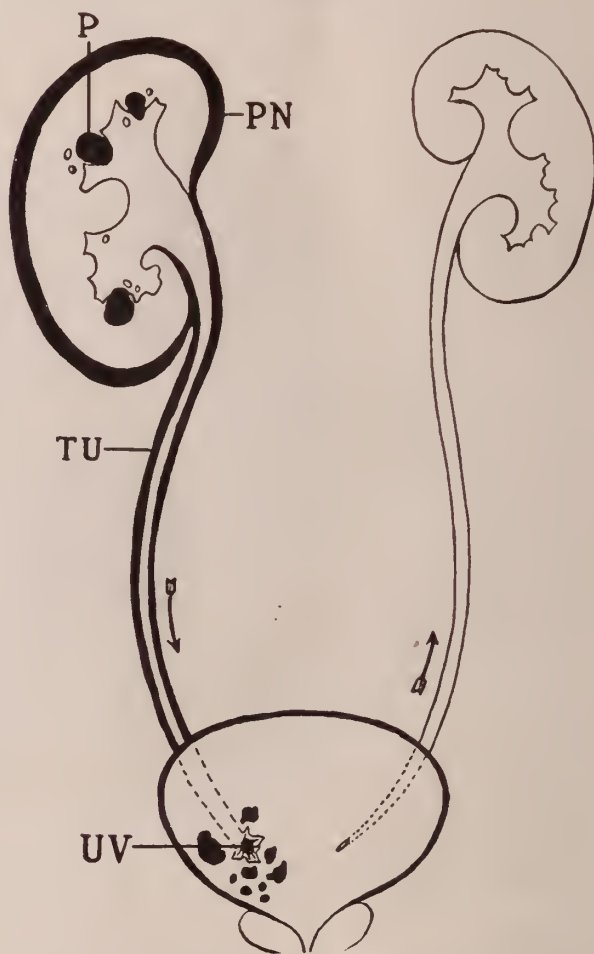


Fig. 5. Diagrammatic representation of unilateral tuberculous infection of kidney, ureter and bladder.

P. Area first invaded at junction of minor calyces and pyramids of kidney (tuberculous papillitis).

PN. Enormous thickening of perinephritic capsule in some cases.

TU. Greatly thickened ureter.

UV. Retracted "golf hole" ureteral orifice surrounded by areas of ulceration and tubercles.

The arrow on the affected side shows the direction in which the infection travels downwards towards the bladder from the kidney, and the arrow on the opposite side shows how the sound kidney may be invaded by an ascending process from the bladder.

Symptoms and Diagnosis.—The correct interpretation of a well written clinical history is only the first step in the diagnosis of tuberculosis of the kidney. In other words there is no pathognomonic symptom or group of them which will enable one to make a diagnosis of renal tuberculosis as distinguished from other affections of the urinary tract. It is absolutely essential to call to our aid the cystoscope and the other modern diagnostic methods in order to differentiate this disease from a number of others giving rise to almost exactly the same symptoms.

In their order of frequency, the most frequent clinical groups under which the symptoms of tuberculosis of the kidney appear are the following:

1. Those simulating an ordinary cystitis.
2. Initial and repeated hematuria.
3. Dull ache or colicky pain referable to the kidney.
4. Fever and chills (Fig. 7) with localization of inflammatory signs in the kidney.
5. Enlargement of the kidney with symptoms of generalized weakness, etc.

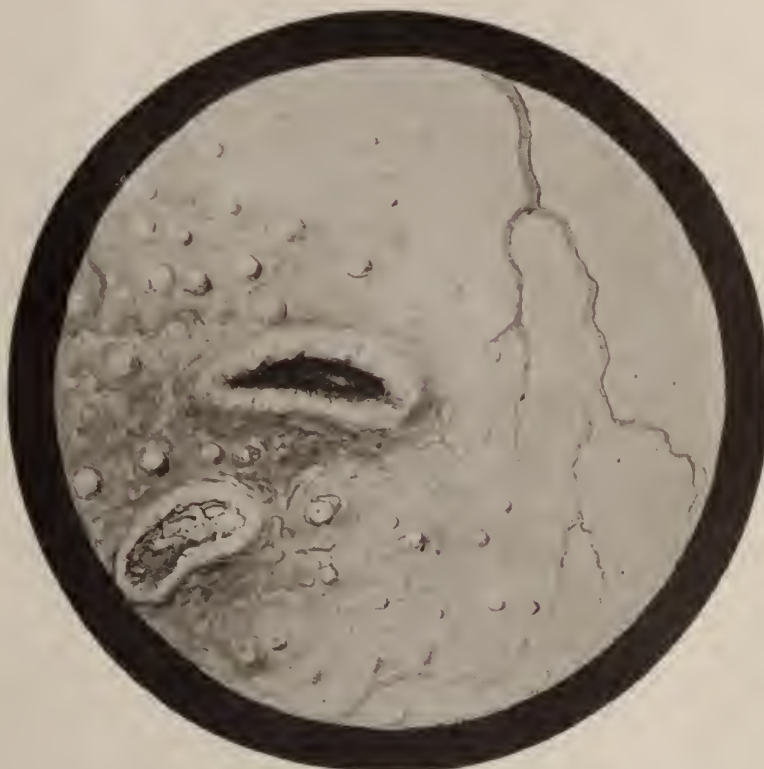


Fig. 6. Typical appearance of bladder in a case of tuberculosis of the kidney. Note gaping character with raised edematous edges of the ureteral orifice giving it somewhat the appearance of a golf hole. In the vicinity of the ureteral opening are a number of miliary tubercles, and to the left and below is a typical tuberculous ulceration.

A. Early stage (see Fig. 1 of this article).

B. Moderately advanced stage (see Fig. 2 of this article).

C. Conversion of entire kidney into a number of pockets containing pus (see Fig. 3 of this article).

It is our duty, however, to call the attention of the man who is usually first consulted by the patient, to the most frequent clinical pictures under which this disease appears and it is his imperative duty to turn the case over to those qualified to utilize the special methods and not to lose valuable time by blindly continuing to treat the patient with the usual drugs, irrigations, etc., for a cystitis, the cause of which he had never taken the trouble to ascertain.

Let us consider the first group a little more in detail since it represents the symptoms in the majority of cases. A patient previously in apparent good health notices an increased desire to urinate at first only at night or during the day, later almost continuously during the 24 hour period. At first the act is unaccompanied by any other symptom but a comparatively early period, urination becomes so painful, especially towards the end of the act that the patient is compelled to

consult a physician. At times the increased frequency and painful urination is accompanied by visible blood. In a relatively small percentage of cases the hematuria precedes the symptoms of increased frequency, etc. This is the second group of cases.

The physician usually makes a diagnosis of cystitis, prescribes urinary antiseptics, bladder irrigation, etc., but the symptoms increase in severity until in sheer desperation, some one else is consulted who happens to know that the diagnosis of cystitis covers a multitude of sins and

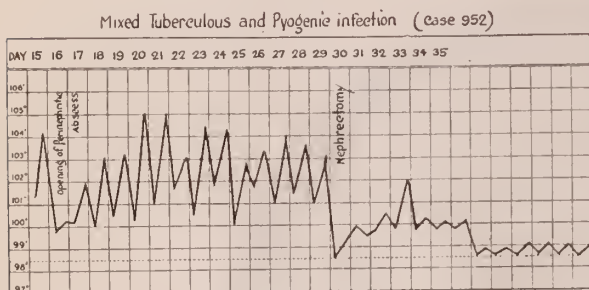


Fig. 7. Temperature chart from a case of perinephritic abscess due to tuberculosis of the kidney which simulated in its clinical course the symptoms of a perinephritic suppuration due to pyogenic organisms.

this second, more progressive physician advises a cystoscopic examination, and from this point on the patient's ship begins to enter safer waters at least.

What I should like to impress upon you as the one lesson to be learned from this paper is that a patient who presents symptoms referable to the urinary tract requires as thorough an examination at the present day as one who complains of symptoms significant of a gastric or duodenal ulcer. The time has passed when the general practitioner or even many a general surgeon can afford to remain ignorant of the tremendous strides which have been made in the diagnosis of the diseases of the urinary tract.

Special Diagnostic Methods.—The examination of a patient whom we suspect to have a tuberculosis of the kidney is one of exclusion. Cystoscopy in the early stages shows redness and swelling of the ureteral orifice but this is by no means pathognomonic for tuberculosis and it is only by making cultures from the urine obtained directly by catheterization from the suspected kidney combined with the use of the newer method of pyelography that we can identify the

specific tuberculous nature of the infection. Unless a mixed infection is present the cultures from such a kidney remain sterile and this alone should make one suspicious. Stained specimens of the urine obtained from the urine of the affected side may, in many cases, show tubercle bacilli which added to the changes in the ureteral orifice are sufficient to warrant a diagnosis of renal tuberculosis. Of course we are well aware of the fact that tubercle bacilli may pass through a normal kidney, but under these circumstances cystoscopy and pyelography will show no changes. At a later period cystoscopy shows more advanced changes in the bladder in the shape of submucous tubercles or typical tuberculous ulcers limited to the vicinity of the ureteral orifice of the affected side. The orifice itself becomes gaping, rigid and has the appearance of a golf hole (Fig. 6). In such advanced cases ureteral catheterization becomes very difficult because of the widespread character of the vesical changes and even cystoscopy is often impossible without general anesthesia on account of the intolerance of the bladder to sufficient fluid to render cystoscopy possible. At times it is necessary to inject indigo carmine subcutaneously in order to locate the ureteral orifices, the drug coloring the urine as it is ejected. Patience on the part of the cystoscopist will enable a diagnosis to be made of whether one or both kidneys are already involved in nearly every case.

Pyelography has proven to be a most valuable adjunct to the cystoscope and ureteral catheter in this as well as in many other surgical diseases of the urinary tract. It consists in filling the upper urinary tract with a solution not penetrated by the x-ray so that all enlargements or irregularities in the outline of the ureter or renal pelvis show on the x-ray plate.

Such irregularities due to ulceration of the papillæ or to the formation of multiple pus pockets in the kidney parenchyma are particularly characteristic.

To sum up, we can make a diagnosis at a comparatively early stage by combining the study of the clinical symptoms with the results obtained by cystoscopy, ureteral catheterization, bacteriological examination, functional tests and, last but not least, pyelography. The guinea pig test is so equivocal and time consuming that it is seldom necessary at the present time.

Prognosis and Treatment.—A few years ago there was still some difference of opinion in regard to whether a case of tuberculosis of the kidney should be treated by medical methods or by the more radical procedure of removal of the kidney. At the present time the opinion that non-operative treatment should not be considered is unanimous. The only exception, *i. e.*, contraindications to operation, are first, patients suffering from either advanced pulmonary tuberculosis, peritoneal tuberculousis or multiple bone foci. That bilateral renal tuberculousis is a contraindication to operation is self evident. The reason for this unanimity of opinion in regard to the advisability of surgical measures in unilateral tuberculousis of the kidney is that statistics both from European and American clinics show that medical, *i. e.*, non-operative treatment, are most discouraging. Of 48 cases not operated on reported by Braasch from the Mayo clinic the mortality was 80 per cent. and in only three cases did all of the symptoms disappear.

I have already explained under the description of the pathology of the tuberculous kidney, that such apparent clinical cures are due to the fact that all of the renal parenchyma has been destroyed, a process known as autonephrectomy. Such apparently cured kidneys, however, have been shown to contain active tubercle bacilli and remain a constant menace to the individual who carries them. In 316 cases not operated on collected by Wildbolz from Swiss hospitals there was only one apparent cure, *i. e.*, cessation of clinical evidences, and only 20 per cent. of the 316 were alive after five years. In 200 cases reported by Rovsing 40 were found inoperable and in 71 inoperable cases from the Mayo clinic in 48 per cent. the symptoms had existed for over five years. When such figures are compared, first, with the mortality of all cases after operation, which is 75 per cent., and second, with the mortality of cases which were recognized and operated on before the disease had become too advanced, it teaches that we can offer the patient a percentage of recovery of at least 75, and in course of time a much higher one as compared with a sure mortality of 80 per cent. and of permanent cure in less than one per cent. of the cases. Therefore it is incumbent upon us to try to make a diagnosis at as early a period as possible and to perform a nephrectomy if none of the contraindications just mentioned exists,

and if the opposite kidney is shown to be functionally active. The question of how to deal with the ureter is far from being settled. Some advocate complete removal, others to inject carbolic acid into the stump and close the wound, and still others to suture the ureter into the end of the abdominal incision. I prefer the last named method which was first described by Rovsing. After removal of the kidney the upper end of the ureter is sutured to the skin edges at the anterior end of the abdominal incision.

The technic of removal of a tuberculous kidney requires no special mention except that the utmost care should be exercised not to allow any of the tuberculous pus to escape into the wound because a very slow healing tuberculous infection of the retroperitoneal tissues results. I always drain such nephrectomy wounds by the same methods as in nontuberculous cases. The bladder symptoms disappear very slowly after nephrectomy, especially in cases where the disease has existed for years. Often a year or more passes before the benefits of the nephrectomy are manifested by a cessation of the increased frequency and painful, often bloody, urination. In one of my recent cases we obtained a most striking amelioration of symptoms and disappearance of all cystoscopic findings characteristic of tuberculousis by the use of mesothorium kept in the bladder for 24 hours in the manner in which it is employed in cancer of the bladder and I can warmly recommend its use in this most disagreeable sequel of renal tuberculousis.

THE MENOPAUSE FROM THE STAND- POINT OF MENTAL DISORDER*

FRANK P. NORBURY, A. M., M. D.

SPRINGFIELD, ILL.

Medical Director of the Norbury Sanatorium,

JACKSONVILLE, ILL.

AND

ALBERT H. DOLLEAR, B. S., M. D.

JACKSONVILLE, ILL.

Medical Superintendent of the Norbury Sanatorium,

JACKSONVILLE, ILL.

Hypothetical standards of normality have been conceived in mental disorders inasmuch as normality is a relative term. Comparative individual psychological methods are used in deter-

*Read at the Sixty-eighth Annual Meeting of the Illinois State Medical Society at Springfield, May 22, 1918.

mining such standards, the purpose being to enable one to measure and compare the apparent deviations from the hypothetical standard of the individual.

In actual practical clinical study of cases of mental disorders, this is the modern method of approach as contrasted with the old method of description. Adler,¹ in his scientific conception of the neurotic constitution, uses this method. Likewise, Crile, in his mechanistic conceptions of man, in his adaptations in every day life, uses it.

This method leads us to view "the compulsion of evolution" and its pathological elaboration, as we see it in mental disorders. Here, we note the results of conflict, in the endeavor of the individual to attain equipoise, functional capability and adaptation to circumstance and environment. The modern conception of mental disorder, regards the individual, afflicted with psycho-neurosis or psychosis, as engaged in a conflict with reality. A psycho-neurosis results when the individual is in conflict with reality, at instinctive or biological levels, or at individual social psychological levels "in which he or she is called upon constantly to make certain concessions to the rest of humanity at the expense of his or her own individual desires."

Conduct is the end result of this conflict and, as representative of the whole complex of mechanisms, becomes the criterion of individual psychological inquiry. A psychosis results when the flight from reality is attained. The patient becomes a social and then can only carry out his or her wishes by a form of conduct which is recognized as a form of sickness.² (White.) Here is where personality enters into the problem.

Mental reactions of an individual, which contribute to formation of personality, depend in a great part on the state of reactions at physiological, physico-chemical and social-psychological levels.

A woman's pelvic organs or a man's liver or the sensory perceptive organs are as much a part of personality as memory or the emotional reactions. Variation is the law of personality and such variations, in their faulty adjustments, may occur at any of the levels just mentioned.

No matter where one begins to study a mental case, in order to properly interpret the assembled scientific data, one must grasp the "goal idea," as revealed in the conflict, and by the trend of the

pathology, whether it be at the physiological, chemical or social-psychological levels.

It is our business to individualize the case and study the trends by the comparative psychological methods. This is why the period of the menopause with its mythical border line of the mental disorders, is a rich field for comparative clinical study.

It is conceivable, that many indefinite conclusions may result from such studies, unless we adhere to rather rigid comparative psychological individuation of our cases and our consideration of hypothetical standards.

Our first duty is to compile data concerning the individual as a personality, including detailed information as to the environment in which that personality was synthesized. Individual psychology in its comparative methods, will show us how wide the variations may be within normal limits. Then, an analysis of these variations will determine at what level or levels, deviations from normality have occurred. And again, enters the question as to how much personality is responsible for these deviations, or whether they are not mal-adjustments due to defects in constitutional development, or deviations at the instinctive, or social-psychological levels, wherein the problems of the sex complex enter into the individual reactions.

Bell³ believes that, however much we unmask the physical attributes of sex and demonstrate the material qualities of the differences in sex psychology and however much we dissect the complexity of sex, we shall not disturb the sex instincts of a single normal individual. The essential fact remains that femininity itself is dependent on all the internal secretions.

Modern research, in the study of endocrine glands, has contributed valuable knowledge to our understanding of sex life and its clinical mental problems. It used to be thought that a woman was a woman because of her ovaries alone. Now, we consider the ovaries as a part of a system, to which most, if not all, the other endocrine glands belong, and in which these other organs, in their relation to the reproductive functions, figure with as great importance as the ovaries themselves. General metabolism is influenced by this system, likewise, the special functions, and above all, the psychology of the individual upon which depends her personality.

All of the endocritic organs act in harmony, control the metabolism in response to the necessities of the genital functions; but in addition, they adapt the whole organism to the possibilities of the situation and regulate the secondary characteristics, both physical and mental, to suit the needs of the individual. Once, however, the reproductive organs are removed or undergo atrophy, the genital functions of the rest of the endocritic system cease and by re-arrangement of the metabolism that follows produces the symptoms of the menopause.

Bell emphasizes the importance of the absolute interdependence of the two essential processes of life, the individual metabolism and the reproductive metabolism. It is the neglect of this point of view that has brought about so much confusion. That this confusion is recognized, and an endeavor is being made to co-ordinate our present knowledge into concrete facts, is evidenced in the proceedings of the American Gynecological Society⁴ for 1917, when the relation of the glands of internal secretion to gynecology and obstetrics was discussed in a series of valuable papers. Of especial interest was the discussion of their influence in variations from the normal.

Frank stated that before ascribing symptoms arising in the generative tract to disturbance of the internal secretions, it is necessary to rule out other possible etiological factors. Only after such local or general causes have been excluded should the glands of internal secretions be considered. As regards diagnosis, he says routine methods as now practiced will not suffice. "Not until thorough and complete studies, conducted by groups of workers, are begun and persevered with, may we hope for concrete gain."

He further says: "If the hormone theory as accepted at present and in proof of which so much correlated data has been accumulated in both the clinic and in the experimental laboratory, eventually is to find practical application and usefulness in therapeutics, the 'vital' principles of some of the glands of internal secretion must first be isolated and the proper dosage and method of prescribing them must be discovered."

A hormone may be regarded as the specific product of a secretory cell, and a given type of cell can then be expected to produce only one (or more) secretion. Such specific secretory products as we understand most clearly, produce dis-

tingent drug actions, which may be simple and rapid as that of adrenalin, which stimulates the sympathetic nervous system, or more slow and less immediately apparent in its effects as thyroid substance, which increases the rate of metabolic activity.

In any case, a potent hormone derivative should have a pharmacological activity, which lends itself to standardization, and which can be demonstrated by biological tests. Until this entire concept is grasped and applied, our efforts in organotherapy will remain in their present state of crude empiricism in exact parallelism with the crudity of diagnosis in disease of the glands of internal secretion.

What Frank has said regarding crudity in diagnosis in conditions of the organs of internal secretion does not necessarily apply to them as factors concerned in mental disorders. Mott, Westcott, and other well known authorities emphasize the fact, which the thirty years' experience of one of us confirms, that mental disorders and suicide occur more frequently at two periods in the life of women, viz.: early adolescence and the involutional period. A well known coroner in England said that out of two hundred inquests on female suicides, the majority of these women had killed themselves about the change of life, and of the younger women, the majority appeared to have been menstruating at the time.

Likewise, experienced alienists know that specific mental disorders may themselves affect the genital functions and menstruation not infrequently ceases during the acute period of a psychosis. Again, the neurotic constitution as hereditary endowment, is a potent and almost constant factor in the history of mental disorders associated with psychoses in which the sex complex with its endocritic glandular disorders is involved.

At the menopause, when the diminishing or absent ovarian secretion begins to be noted, there may occur mental disorder, especially when there is associated hypo-thyroidism. Mott⁵ and Bell have noted that when ovarian insufficiency gives rise to mental disturbances, there has previously been normal activity in these organs.

Severe disturbances of metabolism occur at the menopause, dependent chiefly on the degree of activity that previously existed in the ovaries. In induced menopause (artificial) the patient,

if previously active in ovarian secretion, is apt to suffer profound depression, melancholia with suicide, "because the rapid removal of the ovarian secretion which previously molded her temperament and directed her pursuits and pleasures, involves the loss of the guiding force of her existence; consequently, depression, if not melancholia, may supervene." Here is where thyroid extract with whole ovarian extract have proven beneficial; ovarian extract alone is useless, and apparently indicates the dependent association of the thyroid with ovarian secretion and accounts for the mental lethargy, even stupor, which is so common in involutionary mental states.

All physicians of experience have noted that this psycho-chemical level is also responsible for slight transitory mental perturbations in neurotics at the menstrual periods; irritability, depression, restlessness, sleep disorders, etc., with a history, perhaps, of stormy menstrual periods, going back to puberty.

Skene gave us, as a dictum, that "a stormy puberty meant a stormy menopause." We have confirmed this statement by actual observation by one of us for a period of thirty years. Also, how different the mental outlook is at puberty and at the menopause; also, how different is the mental outlook for the normal reproductive mother with her children than the barren wife or the barren spinster, when they approach and enter upon the menopause. To them, age with its declining possibilities for motherhood as a fulfillment of woman's destiny, becomes the source of constant irritation at their social-psychological level. And in the woman of neurotic constitution with its mental reactions of inferiority, we are especially apt to note deviations either as a psycho-neurosis or if the flight from reality is complete, as a psychosis. Adler says: "No matter how beautiful poets and philosophers endeavor to picture age, it is nevertheless only given to the select souls to maintain their equilibrium when they see looming up in the distance the gate which leads to death." "The sunshiny preparedness, as it is refreshingly expressed in Goethe's 'Father Time,' is a quite unattainable illusion for most people and fortunate, indeed, may be considered those who survive their best of life without a severe depression of the spirits. Accordingly, it naturally follows that the period of aging brings forth similarly to a severe setback, a feeling of infe-

riority, especially to those neurotically constituted." These depressions are accentuated at the menopause by episodes in the home life, like a death of the husband, a business failure, a breaking up of the family, a marriage of a daughter or a son, the going of a son to war service, a loss of position, or loss of a post of honor, etc. In most such cases, a carefully taken history will reveal previous attacks, either actual or border line of neurotic character. Adler says he has never known a climacteric neurosis where the neurosis first became manifest at the climacterium. The neurosis has appeared in some form in previous years. Mostly, one finds a gradual progressive intensification and spreading of neurotic symptoms for years. The anxiety tendency has been more or less constant and progressive.

Age, with its losses, produces a degradation of the ego-consciousness. The aggressive tendency of the past seeks other means for adjustment, which, Alas! are not easily obtainable; hence, the neurosis.

Renunciation, says Adler, would come easier, if along with the sinking of the bodily and mental power, there would also take place a narrowing of the emotional life. This seldom happens and in order to find a substitute for the loss of aggressive tendency, which has been stimulated by the insecurity, again is whipped up all stimuli of desire. Individuals then force themselves into submission and will not annihilate their feelings and desires without being able to set themselves to rights with them. And more intensely will these flare up when a renunciation without adjustment is demanded.

Thus are created the active hostile traits so noticeable during the menopause—the traits of envy, ill-will, avarice, craving for dominance, dissatisfaction, restlessness and unremitting striving for remedies as substitutes for security. The old cry of "pastures are green afar off" lures them, they strive for them, and when they reach these environments, they find happiness is not there.

"Age, to the neurotic women, is like a stain." They feel their value sinks, they become actually hostile to age, as I have repeatedly seen. The guiding principle becomes "I am deprived," "I have had little out of life," "I am a slave to my home, my family." I heard a minister's wife say just last week, "I am a slave to my husband's

congregation, as well as to him and my family. I will get nothing more out of life except a place to sleep, something to eat, etc." These patients accentuate this view to such an extent that they suspiciously and distrustfully sink into the repulsive egoism which makes them anti-social, narrows quite rapidly their social sphere, and makes the woman a vacillating, dissatisfied, unhappy, unstable person, at outs with herself, with the world and everybody in it. Here is where avarice and jealousy, with their outbreaks, make them sink farther back into their ego-centric fears and forebodings. Adler says, "thus there lie unmistakably under cover, separated with difficulty from consciousness, those impulses which lastingly support dissatisfaction, impotence, distrust, and uninterruptedly direct attention to the unattainable."

Especially is this reach for the unattainable apt to include the sexual guiding principle in neurotics and regrets over not being a mother, retributions and a host of complaints, major and minor, extending, as Kirch says, even as far back as the onset of puberty.

The neuroses of the menopause with their vacillations, their indecisions, their doubts, their fears, are endeavors to compensate in gaining power—in seeking the unattainable, which latter feeling is their letters, their complaints, as part of their never leaves them. It is shown in their dreams, craving for security and the putting off of inevitable age.

Their conduct is demonstrative of the same complex of ideas; their suffering, their hesitating, and their anti-social attitude, lessen their social circle and afford opportunities to withdraw more and more within themselves and from society. Psychologically, these complaints—this anti-social attitude—is a revolt, a protest against their inferiority and a selfish defense reaction to soften the protests of others, especially members of their own family. The woman is, in her own mind, a martyr, and her endeavor is to make everyone else acknowledge her right to be so recognized.

Time will not permit me to dwell upon this inviting field, which modern psychological inquiry has found so full of possibilities in treatment, with more than what we formerly expected, in helpful results. It is only by actual work in, and practical familiarity with, the phenomena of men-

tal pathology, that these formidable problems may be understood. Especially is it necessary to know of the phenomena of the emotional innate dispositions which, as Morton Prince says, play one of the most fundamental parts in human personality and in determining mental and physiological behavior.

In both private, hospital and office practice, we have given much attention to the study of the emotional and subconscious phenomena, because in these spheres we find fruitful results. Further, it is the intensive case study method, rather than casual observation, that brings about favorable results. The element of time, while a factor, should only be measured by results attained.

Readjustments of, and insight into, mental processes and mechanisms, becomes imperative if we are to give relief to the patient. Treatment of the neuroses of the menopause, while trying and consuming time and patience of all concerned, yields results if we are dealing with a patient who wants to get well. With many patients of the "satisfied with self" type and who have come to the physician, as another experiment, after all other resources have failed to restore them, it is to be noted, even a slight improvement not infrequently contributesutes to a relapse, because such patients resent the authority of physician and nurse. The relapse is a protest against authority, for never in their experience were they able to adjust or subordinate themselves to anyone.

These defense reactions are in line with the guiding principle of their lives, the assurance of dominance. Woe be unto the self-confident physician who approaches such a case with his own desire to dominate and who, by brow-beating, thinks he has scored a victory over such a case. Just let him wait until his patient has marshalled her forces, brought up her reserves, and laid down her barrage. He will find she understands camouflage and he will retire defeated, a sadder and perhaps a wiser physician. Such a patient feels keenly this belittling, as lowering her ego-consciousness, and brings up her own defense batteries with victory finally scored in her endeavors.

It requires tact and patience to grasp the point of view of the patient, and in order to meet it, the organization of service, and supervision of the patient must be in readiness, with the relatives lined up with the physician in the campaign.

It is not to be a tentative experimentation; it is to be a siege, for the purpose of overcoming the tyrannical power of the patient over herself and her family.

Systematized rest is the sovereign aid in this campaign, and intelligent study "to make what is helpful pleasant, and what is pleasant helpful." We have to remove the patient from her problems by intelligent interpretation and careful, tactful readjustment to at least apparent normality for her. Above all, let us remember that the improvement of one of the symptoms improves others; this is the clue for further progress. Also, avoid provoking symptoms by suggesting them, and especially in our campaign be careful to steer between the Scylla of suggestions of pain and the Charybdis of sleeplessness.

What we should seek is to enable the mind of the woman to revert to the more neutral type, which is normality for the post-menopause period. But for the woman who has had longings for motherhood, or who has been deprived of its compensations by death of her children, the mind may not revert and be adjusted to new conditions; hence the protracted mental disorders which not infrequently are met with in our experience.

We have in mind one case which has been under observation for over twenty years. This case could be classed as a psychosis and yet it has not the definiteness which should pertain to make such a classification. The psychoses occurring during the menopause have no special classification. In other words, modern classification of mental disorders recognizes no form of properly classed climacteric mental disorder.

The form of psychosis, when the patient takes the "flight from reality" is usually dependent upon neurotic inheritance and history of neuroses and of former mental disorder. In frank psychoses, over one-half have a neurotic inheritance. Psychoses occur more frequently in married women, but widows and single women who have been active in business or professional life are quite prone to this disorder. It is not the hard work, but the stress, the changed circumstances, the emotional shocks, the disappointments, and realization of the passing years, etc., operating under the stress of the involutional period that bring about the psychosis.

Exhaustion is quite common at this period,

even to those who have withstood acute illness, childbirth, accidents, etc., only to have the involutional changes lower the mental thresholds sufficiently to precipitate a psychosis. This is more apt to occur where the prodromal period has lasted over several months and has been recognized; the usual tentative measures including Christian Science, have failed to give relief.

Again, the form of the mental disorder may be purely a symptomatic depression, but the most common form is Involution Melancholia of which, in women, the menopause is the most important factor. The apprehensions, delusions with marked fear reactions, the anxious terrors, the agitated confusions, apathetic depressions with mutism, etc., mark this mental disorder as the most to be feared from the standpoint of suicide. While every depressed patient is potentially suicidal, yet, in involutional melancholia, this feature must be warned against by the physician from the very beginning.

During the past year, in consultation practice, five warnings were given by one of us which were not heeded by the relatives or nurses, and five suicides occurred, in three of which the form was predicted, as they subsequently occurred. Manic phases with marked hallucinatory experiences may occur.

The prodromal period is marked by sleep disorder, vivid dream states, morning depressions on awakening, alteration of temper, suspicious jealousies, and later, false accusations. The somatic symptoms are misinterpreted—hence the mental crises, alarms, fears, and slowly developing delusions. The patient arrives at a point where, because of failure of insight, she says "what I experience must be true," "I am right, they are wrong," etc. The disorder grows in importance and not infrequently we note very marked disturbances in the psychic sexual life. Especially aggravating and distressing to the inexperienced in mental disorders, is the observation of an exacerbation of desire—"a final flare of the dying generative flame." During its continuance are to be noted delusions of suspicion, hallucinations, and perversions of sexual life. Let it be noted that in cases of artificial menopause, the same complexity of symptoms may occur, and sometimes with even greater degree of intensity.

The frequency of nervous symptoms, as stud-

ied by T. Giles in a thousand cases of menopause phenomena, noted depression in 18 per cent, irritability in 19 per cent, depression and irritability in 11 per cent. The prognosis in psychoses occurring during the menopause is good in at least 80 per cent for final adjustment and return to fairly average normality.

The duration of such cases is largely dependent on the early recognition that something is wrong. The prodromal period with sleep disorders, insomnia, dream states, etc., should be the guide of foreboding dangers. Nervous exhaustion is the usual diagnosis, and diversion, rather than rest, is the usual prescription, both by physicians and relatives. Not infrequently a surgical operation is suggested to meet a surgical condition, but with the hope that the surgical pathology is the basis of the depression, both physical and mental. Alas! the mental pathology has in most such cases been overlooked, and, when recognized, post-operative psychosis is more apt to be the diagnosis, rather than to consider post-operative phenomena as purely episodic. The real psychosis began long before operation was thought of.

Slowly, the psychosis develops, and slowly recovery takes place. Our experience is, that we may count from one to three years as the duration; with the average, under intensive treatment, to be about eighteen months. It is rare that the duration is less than a year.

Hospital treatment and care, with its organized service, is an absolute need, to meet all of the conditions indicated in the proper treatment of the psychoses of the menopause.

LITERATURE

1. Adler, Alfred: *The Neurotic Constitution*. Moffat Yard & Co., 1917.
2. White, William A.: *Principles of Mental Hygiene*. Macmillan, 1917.
3. Bell, Wm. Blair: *The Sex Complex*. William Wood & Co., 1916.
4. *Transactions Am. Gynec. Soc.*, 1917.
5. Mott, F. W.: *Proceedings Ray. Soc. Medicine*, 1915.
6. Prince, Morton: *The Unconscious*. 1914.

AURICULAR FIBRILLATION*

JAMES G. CARR, M. D.

Attending Physician, Mercy and Cook County Hospitals,
CHICAGO

The study of the cardiac irregularities, carried on so enthusiastically for the past two decades, has, with the aid of the polygraph and the elec-

trocardiograph, added much to our knowledge of cardiac physiology. With the newer conceptions of cardiac activity, much has been added to our knowledge of the heart's work, not only from the theoretical point of view, but from the more practical aspects, those which concern diagnosis, prognosis and treatment. To the definite principles in these particulars which have been established concerning auricular fibrillation, I wish to direct your attention.

Auricular fibrillation is merely a new name for an old condition; the absolutely irregular pulse of heart disease has been recognized time out of mind; it remained for Cushny and Edmunds¹ to suggest that auricular fibrillation, a condition well known in experimental animals, might bear a causal relation to the "pulsus irregularis perpetuus," and for Lewis², Rothberger and Winterberg, and other workers, to prove that fibrillation of the auricle is the cause of the absolutely irregular pulse.

By auricular fibrillation, we mean a disturbance of auricular activity characterized by continuous, but incoordinated movements of the auricular musculature; muscle movement is constant, but inasmuch as groups of fibers are acting independently and without relation to the other portions of the auricle, and since this irregular, ineffective movement practically never ceases, the effect is a functional paralysis of the auricle; auricular systole in the usual sense does not occur. The many impulses arising in the over-active auricle are carried to the bundle of His; here, in turn, they find their way to the ventricle, and would excite an equal number of contractions, were it not for certain well-known physiological facts; the bundle of His itself has a "refractory" phase, during which its functional capacity is diminished or absent; and as will be noted again, Lewis and Mackenzie believe that there is a distinct disposition to block in fibrillation, that is, the conducting function of the bundle is depressed; finally, the well-known inability of the ventricle to contract during the refractory phase protects it, in this ease, from much fruitless work. Fibrillation may be regarded as a functional disturbance; characteristically it manifests itself as a purely functional affair, as it is not related to any specific pathological change, and, so far as we know, frequently occurs in the entire absence of demonstrable auricular pathology.

*Read at the Sixty-eighth Annual Meeting of the Illinois State Medical Society at Springfield, May 22, 1918.

Clinically we know that fibrillation is most common in the rheumatic and arteriosclerotic hearts, though it may be found in connection with any anatomical lesion. The type of disease with which it is most frequently associated is that of the mitral orifice; particularly does it occur with mitral stenosis. Lewis found out of 73 cases of fibrillation 37 which were associated with mitral stenosis; of the 73 cases, 47 were definitely or presumably rheumatic. He makes the further statement that "the majority of mitral cases admitted to the general wards showed disordered heart rhythm."

As to the cause which finally precipitates fibrillation, we cannot speak with certainty; but we know that the rhythm often has had its inception following over-exertion, and furthermore, that the rhythm so started, has often been permanent. It appears, then, that an excessively distended auricle favors the onset of fibrillation. In other cases, fibrillation has occurred one or more times following some unusual effort, only to subside; sooner or later, the attack eventuates in the persistence of the abnormal rhythm. Since beginning this paper I have seen a young man with a mitral lesion whose history is illustrative of the point in question. He played football for three years, knowing of his heart disease, but without any symptoms; two years after his football days, following severe and unusual effort of some sort, he had an attack of tachycardia, with an absolutely irregular rhythm, with some substernal anxiety, and a little breathlessness on slight exertion. These symptoms subsided in about 48 hours, and thereafter his pulse was regular and not rapid; he was free from symptoms. About one month ago, again following over-exertion, he had a similar experience, but with a less fortunate outcome. After one month fibrillation persisted and is probably permanent.

We know by experimental proof that over-distention of the ventricle favors the occurrence of premature contractions. Reasoning by analogy, we expect the same relationship of cause and effect in the auricle, and authors variously state that frequent premature auricular contractions portend fibrillation. Hewlett³ has published a case which showed this connection quite definitely.

Fibrillation may be acute (of the paroxysmal

type) or chronic. The acute type is found particularly in mitral lesions, preceding the permanent establishment of the rhythm, as stated above. It occurs, as well, in various infections and toxic conditions, particularly in pneumonia and exophthalmic goiter. The chronic type, the permanent fibrillation which is seen so commonly in broken compensation and various stages of heart disease, as has been stated, does not rest on any well-defined pathologic basis. It is most common, as generally stated, in the rheumatic and arteriosclerotic types of heart. In my own experience, I have found it very frequently in the form of cardiac failure occurring as the result of chronic emphysema.

It may be said that the presence of auricular fibrillation can be diagnosed, almost invariably, from the radial pulse alone; instrumental methods are not indispensable. The pulse of fibrillation is the permanent and absolutely irregular pulse, named by Hering⁴ "*Pulsus irregularis perpetuus*," recognized in its most marked forms by the older writers as "*Delirium Cordis*." Because of its frequent association with mitral disease, it has been spoken of as the mitral pulse; all of which terms refer to the characteristic pulse of auricular fibrillation. Lewis speaks of two diagnostic criteria, by which fibrillation can be diagnosed from the radial pulse alone:

1. "First and most important is the absolute character of the arrhythmia. The heart is never regular and seldom or never do two beats of the same character or length succeed each other.

2. "Consists in the absence of a definite and continued relationship between the strength of a beat and the length of the pause which precedes it. A strong beat may follow a short pause, and a weak beat may succeed a long pause."

Confirmatory evidence of the onset of fibrillation may be deduced from the character of the underlying lesion. It is most common in rheumatic and arteriosclerotic hearts; the typical presystolic murmur of mitral stenosis disappears. It has long been recognized that the characteristic crescendo murmur of mitral stenosis is not usually present with decompensation; especially has its disappearance been noted after the onset of the irregular rhythm. Where the decompensation is associated with auricular fibrillation the murmur in question either is entirely absent, or is replaced by an early diastolic murmur. Broad-

bent described this change of murmur as belonging to the third stage of mitral stenosis. Fibrillation is not often found in patients under fifteen; careful observation will usually disclose a sinus arrhythmia of high grade in children where fibrillation is suspected. Finally, it must not be forgotten that fibrillation once found in connection with broken compensation does not often give way to the normal rhythm. Under these conditions, the statement that fibrillation has ceased is usually incorrect; we are more likely to have continuance of the fibrillation with a slow ventricular rate, which simulates regularity.

As for the differential diagnosis of auricular fibrillation and the other forms of arrhythmia; premature ventricular contractions show a compensatory pause, following the early contraction; the rhythm is not "absolutely disorderly," but shows an underlying regularity, and usually frequent runs of a regular pulse. Sinus arrhythmia is characterized by its regular irregularity; a few beats, close together, then the pause becomes gradually longer, then shorter, showing the more rapid rate again. In heart-block there is no ventricular beat to correspond to the missed beat at the wrist. Other types of arrhythmia are sufficiently infrequent to need no discussion here. It may be noted further that fibrillation is the one form of cardiac irregularity which is aggravated with increased frequency of the pulse; other forms of arrhythmia, notably premature ventricular contractions, tend to become regular, as the pulse rate increases.

It is necessary to speak in some detail of the "pulse deficit." James and Hart⁵ state "the term *pulsus deficiens*" has for a long time been used in describing pulse phenomena (Traube, Hering, Wenkebach), but each author has used it with a different meaning; some have considered it synonymous with "*pulsus intermittens*"; others have applied it to an absence of ventricular contraction, which breaks the ordinary rhythm; it has been used in describing extra systoles and *pulsus alternans*. So far as we know, Drs. Robinson and Draper, of the Rockefeller Institute, first used the term "pulse deficit" to designate the difference in the count when taken at the apex and in the carotid artery. By "pulse deficit" we mean the difference between the number of cardiac contractions and the number of impulses which can be palpated in the radial artery." In

auricular fibrillation the observation of the pulse deficit becomes of considerable importance; frequently the number of ventricular beats missed at the wrist will equal those which can be felt. The ventricle, under the influence of a shower of impulses from the auricle, contracts when it has not regained its full contractile power, or before it has been properly filled; the result is a discharge of blood insufficient to produce an impulse at the wrist. Contractions of this abortive nature tend to exhaust the heart without aiding the circulation. It follows that a considerable pulse deficit is of serious import. As the general condition improves, the pulse deficit diminishes; though a deficit of four to eight beats is by no means uncommon, while compensation is maintained.

From the standpoint of prognosis, fibrillation, as a general proposition, alters the prognosis for the worse. Many patients have lived for years with a fibrillating auricle. One such case compelled Mackenzie⁶ to change the explanation he first offered for the absolutely irregular pulse. He had accepted a paralysis of the auricle as the functional disturbance, but the patient in question died after many years of observation and the auricle was found hypertrophied, a condition which could not be reconciled with paralysis. While patients with fibrillation do often live for years after the onset of the irregular rhythm, it still remains true that their cardiac reserve is not so good as is that of the regular heart, with the same pathology, of whatever nature; they are always a little nearer to decompensation. Even the slow pulse, with a low pulse deficit, of auricular fibrillation can be regarded as altering the prognosis, somewhat for the worse. The more rapid the pulse, the higher the pulse deficit, the greater is the probability that we will find the condition associated with broken compensation; and the more aggravated these findings, so much the less likely does improvement become. The nature of the underlying lesion is of considerable importance in prognosis; this is distinctly better in the rheumatic heart, especially in patients under 40, than in the arteriosclerotic hearts of later life. Then again, the response to treatment has a distinct bearing on prognosis; the fibrillation that responds promptly to rest and digitalis is associated with a better cardiac muscle than that which shows a slow and imperfect response.

It is in connection with the subject of digitalis therapy that the studies regarding auricular fibrillation have proven most helpful from the practical standpoint. Certain definite facts have been established, certain indications for the use or discontinuance of the drug.

As to the first, the facts established as to the effect of digitalis, there is pretty general agreement that digitalis acts most certainly and most effectively in cases characterized by the absolutely and perpetually irregular pulse. As to the effect of digitalis on the regular pulse, this is not the place for a discussion. But in fibrillation, it appears that digitalis acts chiefly by vagus stimulation inhibiting the passage of impulses through the bundle of His, with a consequent slowing of the ventricular beat, permitting a better filling of the ventricles, and a more effective contraction. The effect on the cardiac muscle which is insisted upon by Cushny⁷ is regarded by Lewis as subordinate to the inhibitory effect on the conducting fibers. Lewis and Mackenzie believe that in auricular fibrillation there is a pronounced disposition to blocking of the conducting fibers, which is readily heightened by the use of digitalis.

As to the indications for the use of digitalis; broken compensation with fibrillation is always an indication, save in the rare cases where the pulse rate responds without improvement of the symptoms, and with further administration of the drug symptoms of intoxication appear without relief of the decompensation. Such cases, it may be said, offer a uniformly hopeless prognosis. Digitalis should also be used, carefully, in cases with a fairly high pulse deficit, some sub-sternal anxiety, palpitation, etc., without definite signs of broken compensation.

The drug should be pushed to its effect; slowing of the pulse with lowering of the pulse deficit is almost always accompanied by signs of general improvement. These are the criteria of successful digitalis therapy. The response is likely to be most uniform and gratifying in the rheumatic type of heart; it is less satisfactory in the arteriosclerotic and nephritic types; while the symptoms of heart disease resulting from syphilitic involvement of the organ rarely show real results without specific therapy.

The symptoms of digitalis intoxication are well known; in their presence its discontinuance is indicated. Slowing of the pulse, diminution of the

pulse deficit, and general improvement call for a lessening of the dose or a discontinuance of the drug. It should be noted that a slow radial pulse alone is not a contra-indication to the administration of digitalis; I have seen digitalis withheld because the pulse was 60, though the ventricular beat was about 150, a pulse deficit of 90, which, with the associated symptoms, afforded a positive indication for the use of digitalis. It is not the radial pulse alone which must be considered, but the ventricle as well.

Another point of importance is this: many cases of auricular fibrillation, in which the pulse rate has been brought down to 70, or thereabouts, with a slight pulse deficit and no decompensation, will do better if kept under the influence of small doses of digitalis, than if allowed to go on without it. A grain or two of the powdered leaves a day usually is sufficient; many patients will show symptoms of beginning decompensation within a few days of its withdrawal. With a little care, the administration of digitalis can thus be kept up over long periods of time with most gratifying results, instead of the unpleasant ones so commonly feared and expected.

This brief review of the subject of auricular fibrillation has been presented in the hope of emphasizing the important practical results of the studies concerning this condition. They may be summarized thus:

1. Auricular fibrillation is not a clinical entity; the term denotes a functional cardiac disturbance, without specific pathology, but often found in connection with long-standing disease of the auricular musculature, characterized by numerous incoordinated movements of the auricular musculature, which may occur paroxysmally or permanently, as a result of toxic influences, or in connection with any organic heart disease, but most frequently in the rheumatic and arteriosclerotic hearts.

2. Almost invariably, the condition can be recognized by the presence of the absolutely irregular pulse.

3. Fibrillation, as it is found in connection with broken compensation, rarely disappears; ventricular action becomes less frequent under treatment, but coordinated activity of the auricle is rarely restored.

4. Observation of the "pulse deficit" is of importance in diagnosis, prognosis, and treatment.

5. Digitalis gives its most brilliant results in these cases of fibrillation.

DISCUSSION.

DR. FANTUS: I am glad this subject was brought up at this meeting in view of the fact that the new teaching is so different from the old.

There is one point I would like to touch upon and that is the use of the extract. I would say that that is really the worst preparation of digitalis. I believe it is very unsatisfactory. The powder of digitalis is small enough in dose to be given in pill form without making it necessary to use an extract. The active principles of the digitalis are so unstable that in the preparation of the extract they are liable to decompose.

DR. SLOAN: There is so much difference between the organic heart disease and those that we have been taught to consider of importance and the mechanical disorders that it seems as though it is a different study entirely.

For the last three years I am frank to confess that I didn't know there was such a thing as mechanical disorders of the heart. I read a little \$2.00 book—Lewis' book—on the clinical disorders of the heart and I just merely want to testify to the great importance of that one little booklet, "The Clinical Disorders of the Heart Beat" by Lewis. I think that each one of us should try to be able to recognize auricular flutter and should also recognize the fact that nearly every auricular flutter comes from auricular fibrillation. The smallest operation would probably cause death in such a case. A little later an operation is much safer and I think we should also recognize the fact that unrecognized auricular flutter is the cause of a great many unexpected deaths during operations.

BIBLIOGRAPHY

1. Cushman and Edmunds: Amer. Jour. Med. Sc., CXXXIII, 66.
2. Lewis: Heart, i, 106.
3. Hewlett: Heart, ii, 107.
4. Hering: Deutsche Arch. f. Klin. Med. XCIV, 185.
5. James and Hart: Amer. Jour. Med. Sc., CXXXVII, 63.
6. Mackenzie: Diseases of the Heart, 214.
7. Cushman, Morris and Silberberg: Heart, iv, 33.

SOME UNDESIRABLE RESULTS PRODUCED BY SOME OF THE PRESENT HEALTH LAWS AS NOW ENFORCED*

ALBERT E. MOWRY, M. D.,

Professor Genito-Urinary and Venereal Diseases, Chicago Hospital College of Medicine. Attending Genito-Urinary Surgeon to Provident and Fort Dearborn Hospitals.

CHICAGO

In a general way there is a good and bad side to almost everybody and everything. Health laws are no exception to the above statement. As a rule they have been beneficial. In a lesser way they have produced some undesirable results and conditions.

In this mighty conflict which this country has entered with the idea of preserving liberty and democracy, and which is the most justifiable war that was ever declared, we find some people only lukewarm in their patriotism and we wonder how it is possible. Many of this class nurse a grudge because of some manifest miscarriage of justice that has soured and changed their sentiments. In formulating and enforcing laws, too much care cannot be taken to guard against unfortunate and unforeseen results. So-called health laws can sometimes produce serious consequences if not given careful consideration.

To illustrate, I might refer to the law prohibiting expectorating on the sidewalks, etc. A citizen sees the law violated hundreds of times daily and might observe some of those who are supposed to enforce it among the violators. Presently some day he unconsciously happens to violate the law. It may not be his custom or intention. He is promptly arrested and fined. All the anarchists are not of the long-whiskered type from Russia. Many are made right here, and the reason for their change of fealty to their country might be traced to some such occurrence as above cited.

If the law against expectorating in public places or any other health law on the statutes are worthy of being laws they should be enforced constantly and rigidly and no favoritism shown. This thing of selecting one day in a long while and arresting a lot of people for doing what they see done in plenty without molestation most of the time, does not make better citizens of those who happen to be caught on the selected day. It simulates the old twice-a-year raids on houses of ill fame, although the houses are known to be operating continuously. This sort of a spasmodic enforcement of law makes a travesty on justice. I believe there is enough moral backing to the anti-spitting law to permit of its full and rigid enforcement. Other spasmodic enforcements of some of the other health laws might be seriously questioned.

Nearly all of us have some health hobby, and we believe the world would change materially for the better if our views were followed by the multitude. One of us may believe that a vegetable diet spells health and long life; the next says buttermilk; the next, bran bread; the next, bending exercises; the next, a cold plunge each morning; the next, forty holes of golf at sunrise; and

*Read before the section on Public Health and Hygiene of the Illinois State Medical Society at Springfield, May 22, 1918.

the next might fasten his faith on Christian Science. All these extremists feel that if their personal beliefs were laws, all would be well.

Once in a while someone with power with one of these good things will get it enacted into a law, feeling his views are absolutely right, and that he is doing civilization a great amount of good and untold benefit in enforcing his firm, but extreme beliefs. In other words, do as I do, and all will be well.

These untried changes are questionable experiments, often concocted by people who are not competent judges. Some years ago a well known man with a large family felt sure that large families were being curtailed because of the ease with which rubber goods were to be procured. He was instrumental in the enactment of the law that would make protective measures next to impossible. His dreams have not come true so far as results are concerned. I do not believe that there is any percentage of increased families, but there is no question but that there is plenty of sterility and childless marriages, partially due to the fact that the well known protectors against venereal diseases were not to be secured. The army today could be doubly protected, if after moral suasion fails, the soldiers could be given a good rubber protector with the full knowledge that failure to use would mean punishment. Some people might suggest that in doing this we encourage misdemeanors. I cannot see why offering a protection of this kind is any different from telling the soldier that if he does digress, but reports promptly on his return and takes prophylactic treatment, he will not be penalized. One may sound better than the other, but they are both on the same list. Some men working in the interest of public health may believe the army will not need any protection other than moral suasion, discipline and severe penalties. Iron bars is the only method that insures stability for some men. Danger of loss of reputation, or even life, will not hold some men when sexual instincts predominate.

Health laws that have to do with quarantine should be most carefully compiled. The present quarantine regulations for diphtheria do good and do harm. How many poor mothers call up their physician asking for advice, but telling the doctor not to call, as they are afraid they might have to be quarantined? They, of course, do

now know that the case is diphtheria. I still notice a heavy mortality rate in Chicago due to diphtheria and some of these deaths are directly due to above facts. The Health Department tells us that the case can be removed to the contagious disease hospital and thereby not cause any disruption in the family. That is true, but taking a sick child out of his bed and loading and unloading in an ambulance, is not advisable if it can be avoided. To a certain extent it might produce shock or other undesirable conditions. This is not saying that the contagious disease hospital is not a good place. There is always the chance for contamination, but my experience is that they do good work when the case is once there. I do not say that the present strict quarantine on diphtheria is not justified, but some phases of it are partly open to reasonable doubt, and leaving the quarantine decision to the judgment of the family physician, as long as people will obey orders, was not without its good points. The unfortunate fact is that the poor people are the ones that have to stand the brunt of the regulations as they now stand. They see no way to send the father to another place to live and still get along, and the poor mother dreads seeing her little child loaded in an ambulance and taken from her, just as much as does the more fortunate mother. The above facts suggest food for careful thought, and should make us a little cautious in contemplating new movements. Educational propaganda, such as carefully worked-out moving pictures, will do much good, and they should be given a big field and first place over the ever increasing number of red warning signs.

The new law that calls for reporting and quarantine of venereal diseases is a dangerous menace, and how any person with any forethought or experience could believe they were making a good move in suggesting such a law is almost beyond comprehension. They have absolutely ignored human nature, human instincts, and good everyday commonsense in formulating such a law. Do you suppose that a single person that had to do with the making of this law, if he himself had a venereal disease, would have it tabulated, as he asks his fellow man to do? Not in a thousand years. Some inexperienced and over-enthusiastic advocates of this measure call it sane and beneficial. The law in reality is clumsy, ambiguous, impractical and decidedly dangerous. The aver-

age person with venereal or other trouble with the organs of reproduction, would let his trouble take any course it might rather than run any chance of a report being made in his case. Laws are not going to suddenly change the inborn intuition of the race, for the earlier tribes sought a fig leaf if nothing more. The traveling hermaphrodite insists on face cover before the students are allowed to make examination. The colored men that I examine for venereal diseases for District Appeal Board No. 3 are more than thankful to me when I find it possible to secure a little privacy for them while examining their sexual defects.

One great reason why quacks and strange doctors secure such a large percentage of cases of boys who have nocturnal emissions or venereal diseases to treat, is that the boy will not take a chance on the family physician for fear he might in some way tip off the boy's condition to his father. I have known cases where the boy's fears might be substantiated. A proud father will say: "My boy and I are just like old pals." That might be the truth occasionally, but it is not the general rule when it comes to matters of privacy regarding organs of reproduction. The boy goes to the quack because the quack puts great stress on the fact that he never violates his patients' confidence, and never prints any testimonials, or gives a name. If the quack would just put in one testimonial, such as "I have suffered with night losses for years, but after a few of your treatments was completely cured. (signed) John Jones, New Castle, Ill.," he would not get a case. The boy would be afraid he might be exposed. Quacks used to get all they could by their vicious methods, and when a patient finally quit sending them their entire earnings, the quack would write that as they were not completely cured, their cases would be published with their names and addresses as a warning to other young men who might fall into their unfortunate habits. This would bring another money order. Fathers will too often lose good sense, and if the family doctor has told them very confidentially of some distressing sexual disturbance of their boy, they might sometime or another gently hint it to the boy. They might use the secret information as a sort of a know-all mental chastisement for the boy. All this sort of stuff should be cut out for the good of everybody concerned. A family phy-

sician had better not have any quiet little confabs with anyone regarding the case but the patient himself. He will see that the fee is paid. The physician who never confides anything and uses tact, is the one who commands the most respect.

Right now in the French army there has been a plea made by Bourdinere, one of the chief surgeons, that all regulations looking to the reporting and quarantining of venereal diseases be discontinued, as they were playing havoc. He gives figures to substantiate his experiences. This article appears in *Paris Medical*, Feb. 16, 1918, and its abstract is in the *Journal A. M. A.*

This experience is in line with my own during the Spanish-American war. Men would rebel at showing up on sick call and demonstrating venereal troubles. They would seek private suggestions from someone in the troops whom they felt they could trust, and of course, their cases were poorly treated. After my army experience I would feel like suggesting that sick cases should be handled singly and privately as in civil life. The army at present contains thousands of venereal diseases that do not show on the record, partly due to the inborn delicacy of the soldiers regarding this class of malady.

The present law supposed to regulate and lessen cases of venereal diseases, is built on a poor foundation. It calls for reporting of cases of venereal disease, and if carried out as proposed, it would produce many undesirable conditions. Health officers will protest at this point and insist that I have not taken pains to interpret the law as it reads. They will point out the painless and nameless and good for everybody logic that this law embodies. On the contrary, if this law should be enforced and actually carried out as per its requirements it would create much trouble in many ways. I make this statement with a firm conviction that I am not overstepping real conditions and facts. There probably are physicians who make a report of a few dispensary charity, or otherwise unfortunate cases, and forget to report their rich or influential patients. The Health Department will say: "So and So is reporting his cases." The So and So that reports only a few of his cases to pacify or satisfy the Health Department and neglects to give them data on his paying clientele, can only be classed with a man who can easily afford a thousand-dollar liberty bond, but who buys two fifties, so he

can say, "I have bought mine," and boastingly displays posters showing his extreme liberality, both at his place of business and home. I would far rather trust the man who makes no report on his venereal cases, than the man who makes just enough to put him in the safety-first class. Peace at any price is almost as dishonorable in one place as in another. Some people say: "Well, you have got to try anything before you know." The reporting of venereal diseases was tried some years ago.

Dr. V. D. Lespinasse and I were conducting a large clinic at N. W. U. Medical School for Professor L. E. Schmidt. We were doing consistent work and getting good results. When we began to obey the new city ordinance and make a report on cases we were treating, our large clinic almost disappeared, and to hold the small clinic we had left, we had to discontinue reporting our cases. Where did that ordinance do any good? We know where it did much harm. Some sponsors of the present law slipped the word along quietly that the measure is favored by the Surgeon-Generals, and that it is their wish that it be enforced. All the Surgeon-Generals are men of marked ability and wide experience, and if they believed that the law is practical and advisable, would not need any soft pedals to show where they stand in the matter. They would take the initiative as they have done in other matters, and not side-step.

The law is ambiguous. It insists on impossibilities. I never have seen the man who could positively, honestly and accurately tell when a case of gonorrhea, either male or female, was cured and still the law expects that to be done. Of course the regular visiting surgeon to the houses of prostitution can do phenomenal things. He can say, "Dolly, you are right and Daisy, you are wrong." His x-ray eye and supreme diagnostic ability give him powers not bestowed on the rest of us. He can spy gonococci located deep in the nabothian glands of the cervix uteri or even away up in the fallopian tubes. He might, however, glance at the last issue of the *Urologic and Cutaneous Review* and see an article from Argentina, showing an alarming increase of new cases of venereal diseases in Buenos Aires, and telling of the fact that 90 per cent of the cases were contracted in regularly licensed and medically inspected houses of prostitution.

Many cases, male and female, that I thought I had cured, will come back and show me a collection of pus that I do not need to put on my spy-glasses to observe. Every other man who has much of that work to do, will probably have similar experiences. One good specialist will tell us that he believes that the gonococcus, as such, does not exist after the patient has been infected for a period of eighteen months. The next good specialist will confide to us that he believes many cases are never cured. Some will call a man not cured as long as a shred appears in the urine. Practically that often means a lifetime in many cases. I have patients urinate in a glass and say, "just look at that shred; can't I ever be cured?" I tell them a burn on the face leaves the vitality of the membrane a little lowered, and a few scales will come from the spot, although the place is healed, and that probably is the condition in their urethras. A surgeon makes a mistake in making a diagnosis positive because of an occasional shred. He gives his opinion and the patient falling into the hands of a quack or unprincipled or unskilled physician will find himself up against some such a game as this: The doctor will say, "you are not cured, and if you leave my professional care (better known as clutches) before you are cured, here is the law, and it very plainly says I must report the case." He shows the patient this new law on venereal diseases, and the patient has to submit to the dirty blackmail that this law makes possible or take the threatened consequences. The makers of the new law probably were so enthused that they forgot to look for facts, possibilities, or untoward results. No serological or other test will tell us whether a patient is free from gonorrhea, so the quacks cannot be legally stopped in their newly-made green pastures.

The cure of gonorrhea is a personal opinion, and not a scientific fact. Syphilis, while much more certain of correct diagnosis, is not beyond mistaken identity. I recently had a case of a woman with a large ulceration on the cervix uteri. It looked specific. She was sent to the city laboratory, whose work I have the greatest faith in and wish to strongly commend, and a strongly positive Wassermann test reported. Repeated doses of diarsenal did not change the lesion. An operation showed a cancer. I looked the matter up and found a large percentage of

cases of uterine cancers give strongly positive Wassermanns. Suppose I had listed and reported the case of this innocent woman as syphilitic? The Health Department is not justified in using its laboratory reports of charity patients as a club. Such action puts the unfortunate poor at their mercy, but does not get the well-off private laboratory patients. It also keeps people from securing the much-needed tests. The present law, enacted supposedly to control venereal diseases, is unsatisfactory and dangerous for the following reasons:

1. It drives the majority of cases of venereal diseases from proper channels of treatment to haphazard or no treatment at all. Pleasant as the law sounds, patients will ordinarily take no chance of their sexual defects being listed or reported.

2. It reaps a harvest for unprincipled doctors who blackmail the unfortunate under the cloak of respectability and responsibility, in obeying the law as it is.

3. It is largely applied to the poor or unfortunate and neglected in cases of the rich or influential, thus being undemocratic and should not be allowed to exist in this country.

4. The requirements of the law are impossible of obedience, due to limitations of medical knowledge and diagnostic acumen.

5. It will keep new cases of venereal diseases from seeking proper treatment from physicians for fear of exposure.

6. Educational propaganda and not drastic laws will lessen the venereal peril.

7. Well-meaning, but ill-advised, framers of health laws as regards venereal diseases should consult and put the laws in the hands of the society whose members are best in position to decide the merits, dangers and limitations of such a law. Urological societies will always be glad to give their best efforts in matters of this kind.

8. If law-makers who are anxious to lessen venereal diseases and venery would pass a law compelling women to dress modestly and not sensually, and other much needed laws along such lines, it would antagonize the increasing venereal peril and do much good. In other words, lock the barn door before the horse escapes.

9. A patient consulting his physician should be assured of strictest confidence forever without

having to mortgage his future movements under penalties of possible disclosures. I personally believe a physician should not be called upon to reveal confidences any more than should a clergyman or a lawyer.

10. Treating venereal diseases with a club is bad and unsatisfactory therapy.

DISCUSSION

DR. ROBERTSON: I can't quite understand how a man trained as a railway telegrapher should get different ideas from my own because I have had the same kind of training. I think this address is reactionary.

In the first place, referring to the anti-spitting law in large cities, it is impossible to take the police force to enforce a spitting law and use them every day. If the doctor had been in conference with Judge Olson, Chief of Police, William A. Evans, and a large number of other people when we discussed some practical way to stop spitting on the streets of Chicago, he would have understood, so the best compromise we could make was to have one spitting day a week, nobody to know which day it was, and if he had been in the courtroom and seen the three, four or five hundred people brought up there at one time, and had he been in the side office, where there were three microscopes and specimens of tuberculosis and meningitis, pneumonia, etc., and had he talked with the men who were arrested and were fined one dollar and cost, and who were not taken to the police station but identified and allowed to come on their own recognition, and had heard what those people said as they walked out of the door, then he would be in favor of the anti-spitting law. Of course, it makes a difference where you are standing when you look. If you are on the inside of a great place and everybody below you, it seems concave to you, but outside it is convex. It depends on the point of vision.

If a doctor were sitting in a health bureau in Chicago, he would do exactly as we have done in regard to the anti-spitting law.

Now, in regard to venereal disease,—he is not quite acquainted with the history of the making of it. First of all, the matter was taken up with the Chicago Medical Society and a committee was sent over in the first instance to oppose it and before they got through they didn't oppose it. Dr. Wm. A. Pusey and Dr. Belfield, two very well-known specialists, sat down with the Commissioner of Health one evening and framed this Ordinance. It was framed after the Australian law and has been tried out. It was the best judgment of Pusey who had written a very exhaustive article on the subject, and it had been printed in the *Journal A. M. A.* a short time before. This Ordinance passed the city Council with only two votes against it and the Ordinance does not provide for revealing the name of the individual. The Ordinance expressly prohibits the reporting of the name unless the man is a criminal, unless the man goes about

infecting other people, and he should be reported whether it be man or woman. The law states, "report the age and sex," but it expressly prohibits the reporting of the name. Much harm has been done to the propaganda for this law by misinformed persons who have never carefully read it or studied it. It is a double-barrel Ordinance. The first half of it is advice, education, the very thing the doctor recommends and this also was written by Dr. Wm. A. Pusey and Dr. Belfield. The second half of it is the reporting of the age, sex, marriage relation and puts the entire responsibility up to the doctor. He tells his patients under the provision of this Ordinance, "I don't have to report you as long as you do what is right. Under the law I am supposed to give you this booklet, and in that booklet you can find what is recommended." If he wants to give them something else beside that, or if he wants to say that there is a certain clause that he doesn't believe in and change it, that is up to him, but he tells them explicitly and puts a restraint on them. Were he to be in a health department like in the city of Chicago and attempted to control small-pox—for this same argument was made against small-pox—or in scarlet fever or diphtheria, by education, alone, he would have a most tremendous epidemic, an epidemic all the time. There must be restraint put on it. You can't control by education. You might as well say, "We will educate people that it is wrong to commit murder; we will educate people that it is wrong to steal; we will educate people it is wrong to do this and that and the other thing," and expect to stop it. The best illustration of all this is the automobile driver. Doctors, lawyers, judges, the best trained and educated people in the world, will speed and would keep speeding more and more if there was not a law or a fine.

You know it as well as I know it, and it is only by having that law and enforcing that law that you can ever stop it.

I want to say that the State Department of Public Health has now state regulation, following the action taken by the Chicago Department of Health. If this law were repealed in Chicago it wouldn't alter it in Illinois, and I think the state law is stronger than the Ordinance in Chicago. I would like to show the doctor a pile of correspondence in the health department which will indicate to him whether or not the federal government is interested. Three hundred seventy-nine out of every thousand of our boys went into the army with venereal diseases. Trace that with those over there with Pershing. During the month of December not a new case was reported. During January there were only four cases. There is a law which wiped it out completely by military regulation. Venereal diseases are contagious. They are filling our hospitals and asylums. So it has to fall in line with all the rest of them and be controlled by law. I thank you.

DR. DRAKE: I think that Dr. Mowry lacks information on the state laws, otherwise he would not have commented on it the way he has. I will give you a little history of this legislation. The Council

of National Defense, acting for the War Department has made a request upon every state health officer and every municipal health officer throughout the entire country to take immediate and effective steps to control venereal infections. They took that step on the advice of the Surgeon General of the Army and the Surgeon General of the Navy. They demanded action of that kind had taken steps to control venereal infections.

Illinois, prior to the receipt of the information of action of that kind had taken steps to control venereal infections, and there as promulgated what we felt were thoroughly reasonable rules for the control of an infectious disease. The rules were promulgated in November, and an amended set of rules was promulgated on May 1st. The rules of May, remedied many of the shortcomings of those of November, and many of the points that Dr. Mowry has made in respect to the Ordinance of Chicago are not applicable to the new rules.

Among other things, Dr. Mowry has said that these rules for the control of venereal infection will deny to the patient the privacy he is entitled to. They do not. They deny privacy only to those who will not obey the regulations. So far as placarding is concerned, only those premises are to be placarded that are used for immoral purposes, where there is an infected inmate who will not consent to removal to a hospital where he or she may be treated. That is all. The sign has never been up more than five minutes, and we never had to use it more than twice. It is merely a weapon for enforcing the placing of the infected individual in an institution for treatment. The Doctor says that this law drives the infected individuals into improper channels. In that he is wrong. That is, our experience proves that is wrong. We have been carrying on a very active campaign in cantonment zones and in co-operation with the federal authorities. A large part of our work relates to the control of counter-prescribing, prescribing for venereal diseases by druggists. Sixty per cent of infected individuals today apply to druggists for treatment for venereal diseases. Under our arrangements, under the provisions of the rules, only the Doctor has the authority to conceal the identity of his patient. If a person applies to a drug store for treatment the druggist is required to keep a record of the name, address, article purchased and date, of every person making such purchase, and report daily to the local health authorities all such persons.

You say the druggist won't do it. In one city at least—that is the city of Rock Island, the druggists are reporting many more cases than the Doctors have and many cases are now referred to druggists for attention, and the druggists are reaping better harvests by filling prescriptions than they did under the old method, which was really a violation of the law.

As to blackmail: the unscrupulous doctor who gets a case like this, if he fails to give publicity to the fact his name will be revealed to the authorities. The rules specifically provide, and a copy of them must be placed in the hands of every infected individual,

that nothing in these rules shall be construed to require that his patient shall remain in the charge of any one physician. We point out to them clearly in the rules as a matter of fact how they may proceed to change to another physician. If they have reason to believe that an improper diagnosis is made of their case, it is pointed out to them clearly how they may have a proper diagnosis made without any additional expense.

In our campaign for the control of prostitution, we have arrested or the federal authorities have arrested some sixty-five women and the habitual associates of these women. The state authorities have been notified and through their representatives medical examinations have been made of every one of these infected individuals and we secure the best man we possibly can in every community to do that work for us, co-operating with the federal authorities. This may seem strange to you. One hundred per cent of the prostitutes and their associates who were examined were found infected. It strikes me that it is mighty important that we get that class of people under control.

Now what do we do with them? By arrangement with the federal authorities these examinations are held. The results are reported to the court. The court calls the case, suspends prosecution, turns the patient over to the county health authorities of which he or she was a resident when arrested, commits them to a hospital,—a first-class hospital where they must be afforded the necessary medical care at the expense of the county and that is working out beautifully.

We have many patients in the hospital at Rock Island and a very considerable number in the hospitals at Peoria. You say the fear of exposure will prevent many of these patients from applying to a doctor or a druggist. Possibly some will not apply, but there is this much about it. It would be very difficult indeed for many people to conceal their infection continuously, and we find now that many cases are coming to light that probably never would have come to light had it not been for the requirements of this rule. The patient feels that if he goes to the drug store, for instance, for his treatment, that he is going to have his name exposed. His name will be exposed to the local authorities and therefore, knowing that, he can go to the doctor and have his identity concealed. Wherever we have had the opportunity to explain in detail the workings of this Ordinance and the state rule to local medical societies, we have not found a single solitary dissenting voice raised against it. The Doctor immediately becomes our staunchest supporter. I believe that covers the main points.

DR. MOWRY: I think I had better read this discussion of the French Army Surgeon who has had actual experience with this thing. I think he is in a little better shape to pass on it than others.

Reads article:

It is war times. We *all* want to help, and a great deal of this is put on the basis that it is for the good of the army. Now I can tell you what my ex-

perience has been with this law. My venereal practice has absolutely dropped way down to half. People that I was treating for syphilis—and I was cleaning them up, stopped. Some of them came up and said, "You haven't got my name, have you?" I have not read this paper because of this drop but because I think it is right. On the other hand my dispensary cases have dropped down to where there are about two or three. This thing of men coming in with diseased conditions has stopped.

Practically speaking, all that Dr. Robertson has said is all right but he sits in the Health Department and sees things as the Health Department sees them. I see them as a man who is trying to treat and cure these diseases.

With the anti-spitting crusade, I know of the case of a doctor who accidentally had to spit. He was grabbed up. As I said, you do not absolutely make anarchists of all the people that you arrest under such conditions as this—not all of them, but some of them. It is like a baseball contest in Chicago. You don't hear a great big outburst, but there are a lot of single soreheads to do immense damage. It is so with this problem of trying to control venereal disease, and I think the way it is being done is a bad mistake.

DR. ROBERTSON: Our clinics are always private. Women are examined by women physicians in the Iroquois hospital. May I also correct the impression that the men were not taken in in the raids. They were booked as vagrants.

BONDS OF THE FOURTH LIBERTY LOAN

Bonds of the Fourth Liberty Loan are now being turned out by the thousands daily by the Treasury's Bureau of Engraving and Printing. The bonds are similar in form and design to those of the third loan, and space has been left on each bond for insertion of the exact terms of the bonds.

It is believed that a sufficient number of the bonds will be ready to make possible immediate delivery of all bonds of the fourth loan as they are purchased.

ENTENTE AND TEUTONIC RESOURCES

The Entente Allies—excluding Russia and including only those British dominions which are self-governing and only the United States proper—have 11,000,000 square miles of territory, 303,000,000 people, and \$495,000,000,000 of national wealth.

The Central Powers have 1,250,000 square miles of territory, 147,000,000 people, and \$134,000,000,000 of national wealth.

The Entente owe an aggregate debt of \$69,000,000,000 which is about 14 per cent of their total assets. The Central Powers owe \$37,000,000,000, or 28 per cent of their national wealth.

NO TIME TO SIT DOWN

The Huns took their stand on the "Vesle" and evacuated quickly as the Allies overtook them.

Current War News

ILLINOIS MEDICAL JOURNAL

Published monthly by The Illinois State Medical Society under the direction of the Publication Committee of the Council.

GENERAL OFFICERS, 1918-19

PRESIDENT.....E. W. FIEGENBAUM, Edwardsville
 PRESIDENT-ELECT.....J. W. VANDERSLICE, Chicago
 FIRST VICE-PRESIDENT.....H. C. BLANKMEYER, Springfield
 SECOND VICE-PRESIDENT.....CLARA SEIPPEL, Chicago
 TREASURER.....A. J. MARKLEY, Belvidere
 SECRETARY.....W. H. GILMORE, Mt. Vernon
 (Ex-officio Clerk of the Council)

THE COUNCIL

First District

Councilor E. Windmueller, Woodstock Alternate C. E. Crawford, Rockford

Edwin S. Gillespie, Wenona Second District J. H. Edgcomb, Ottawa

Clyde D. Pence, Chicago Third District S. J. McNeill, Chicago

T. W. Gillespie, Peoria Fourth District Coleman J. Eads, Oquawka

Charles S. Nelson, Springfield Fifth District F. C. Gale, Pekin

Henry P. Beirne, Quincy Sixth District L. O. Frech, White Hall

Chas. F. Burkhardt, Effingham Seventh District W. W. Murfin, Patoka

Cyrus E. Price, Robinson Eighth District H. N. Rafferty, Robinson

Charles W. Lillie, E. St. Louis Ninth District W. F. Grinstead, Cairo
 Second Assistant Secretary

Clyde D. Pence, Chairman, 3338 Ogden Avenue

Send original articles and all communications relating to advertisements and mailing list to Dr. Clyde D. Pence, Editor, 3338 Ogden Avenue.

Membership correspondence to Dr. W. H. Gilmore, Mt. Vernon, Ill.

Society proceedings and news items to Dr. Henry G. Ohls, Managing Editor, 927 Lawrence Avenue, Chicago.

Contributors will submit all copy for publication typewritten on standard size paper and double spaced. Copy not complying with this rule will be returned, if convenient.

MEDICO-LEGAL COMMITTEE

WILLIAM O. KROHN.....Chicago
 E. E. EDMONDSON.....Mt. Vernon
 D. R. MACMARTIN.....Chicago
 F. C. FISHER.....Bloomington
 C. B. KING, Chairman.....Chicago
 GEORGE STACY, Secretary.....Jacksonville

GENERAL COUNSEL

ROBERT J. FOLONIE.....39 S. La Salle Street, Chicago

State society will pay no bills for legal services except those contracted by the Committee. Notify the Chairman at once. Do not employ attorneys.

AUGUST, 1918

Editorial

THE EDMONDS BILL

There has been presented before Congress a bill known as the Edmonds Bill, H. R. 5531, the object of which is to increase the efficiency of the Medical Department of the United States Army by providing for a Pharmaceutical Corps in that department, and to improve the status and efficiency of the pharmacists in the Army.

We have not space to reproduce the entire bill at this time, but briefly the bill, as we interpret

it, is intended to give official recognition and standing to the pharmacists of the Army service. At the present time the pharmacy department of the Army is not a department to be proud of. It has no standing worthy of the name. We physicians at home are rather particular who fills the prescriptions we write, and how it is done. We wish to know that a competent registered pharmacist compounds them. This will be only one function of the Pharmaceutical Department.

We believe the recognition of this Department by the Army is the right procedure, and should be encouraged by the profession. The Pharmaceutical Department should be a great aid to the Medical Department, and to have the proper recognition and standing, the entire Medical Department must be placed on a standing of the greatest efficiency.

The bill, of course, provides for commissions for reputable pharmacists. We hope the medical profession stands behind this bill and demands its passage.

LAKE MICHIGAN

Good old Lake Michigan in its various moods, in common with other bodies of water, great and small, holds a place of affection and awe among its familiars. As a source of never failing supply, millions of people barely give the lake a thought as they turn the faucet that supplies them more water than any other city in the world. As the bearer of a greater commerce than any other inland lake it draws only the languid interest of the average man, whose fancy is more greatly stirred by the fabled argosies of the Spanish Main.

Even the recent opening of the new Wilson avenue tunnel extending five miles from shore and three miles inland to the Mayfair pumping station which will provide Chicago over 100,000,000 additional gallons a day, received only passing notice.

So uniformly palatable and refreshing has been Chicago's water supply since the Sanitary Drainage Canal (1900) and the system of intercepting sewers (1908) diverted all sewage from the lake between the Calumet river and Evanston—that the recent "fishy" smell and taste of the water was resented as a personal affront.

Reports from the crib keepers in response to an inquiry from Mr. Bennett, Commissioner of Public Works, all attributed the taste to dead fish

with various "fishy" details. When everyone had supposed the discussion was closed and was disposed to "euss" because the fish were not strained out at the intakes comes Langdon Pearse, engineer of the Chicago Sanitary District, and attributes the fishy odor to diatomaceae especially the astrionella which are quite common in Lake Michigan. When present in small quantity, the odor is described as aromatic, resembling the rose geranium, but in larger amount the odor is said to be more or less fishy. Certain protozoa also cause a fishy odor if present in water in sufficient concentration. Of this family uroglena may give an aroma like cod liver oil.

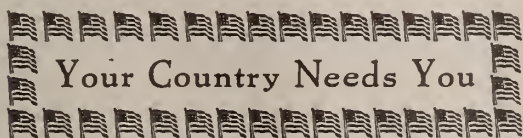
Grassy odors are produced in water by the presence of eyanophyceae which upon decaying give off a "pig-pen" odor. So if you do not relish fish be thankful that it is no worse.

But to return to the lake; during the recent hot weather, when the pavement fairly sizzled and in the dancing waves of heat you saw the old "swimmin' hole" of your youth as in a mirage, after the days work was over and you jumped into your swimming togs and beat it down to the nearest beach. Oh boy! Don't say anything agin old lake Michigan.

EXAMINATIONS FOR THE MEDICAL RESERVE CORPS, U. S. ARMY



The Surgeon-General invites the members of the Illinois State Medical Society to appear before the Examining Board for recommendation for commissions in the Medical Reserve Corps of the Army.



Your Country Needs You

Communicate with the undersigned for further information. E. J. DOERING, U. S. Army,
President, Board of Examiners, U. S. Army,
81 East Madison St., Chicago.

UNIFORM PHYSICAL STANDARD FOR ALL U. S. ARMY BRANCHES

Medical Department Adopts Regulations to Govern in All Examinations

The following statement is authorized by the War Department from the Office of the Surgeon General:

Uniform standards of physical examination governing the entrance to all branches of the armies of the United States for the use of all medical officers of the Medical Department of the Army and of local and medical advisory boards under the selective-service regulations have just been printed and are now being mailed.

GUIDE TO LOCAL PHYSICIANS

Adherence to the new rules and regulations by the local boards will, it is expected, result in uniform examinations in all parts of the country and should prevent men physically disqualified for military service from being sent to camps. At the same time the new standards will enable local physicians to make examinations with a better understanding of the needs of the Army and will clear away misconceptions and misunderstandings which will result in the sending of men to camps who heretofore were rejected.

The new standards are applicable to the Regular Army, National Army, and the National Guard. Explicit instructions are given as to what classes of men may be accepted for limited service as well as what classes may be accepted pending treatment for remediable defects.

The experience of the past year has enabled the medical authorities to establish standards of examination which will relieve the local boards of considerable doubts as to just what decisions to make in unusual cases. Enough of these cases have been examined to establish a policy in determining their military fitness.

STANDARDS DIFFERENT HERETOFORE

Heretofore the physical standards of the three armies have differed and instances have been noted where men who have been rejected for service by the recruiting officers of the Regular Army have been accepted for military service by draft board physicians. Under the new standards this will not be possible unless the disqualifying defect be subsequently removed. The rule for all three armies is that to make a good soldier a man must be able to see well, have comparatively good hearing, his heart must be able to stand the stress of physical exertion, he must be intelligent enough to understand and execute military maneuvers, obey commands, and protect himself, and must be able to transport himself by walking as the exigencies of military life may demand.

The exceptions made to the foregoing general

rule are in the case of the men accepted for special and limited service.

PUBLICATIONS BY ARMY MEDICAL OFFICERS

As stated in the circular "Memorandum for Editors of Medical Publications" recently issued by the Surgeon General's office, all medical manuscripts by medical officers of the Army intended for publication should be first submitted to the Board of Publications, Surgeon General's Office, Washington, D. C., for censorship and approval. The authors are requested to send in two (2) typewritten copies of their manuscripts to the Board of Publications, care being taken that the manuscripts are double spaced. Attention to this detail will facilitate handling of the manuscripts, both by censors and publishers.

By direction of the Surgeon General:

(Signed) C. L. FURBUSH,
Colonel, Medical Corps, N. A.

FIRST MEDICAL SCHOOL

ITS ESTABLISHMENT TO BE CELEBRATED AT JACKSONVILLE IN SEPTEMBER

One of the events of the Centennial year in Illinois will be the celebration of the opening of the first Medical School in Illinois. The Morgan County (Illinois) Medical Society has taken active steps to commemorate this event and has appointed appropriate committees for that purpose.

The first school of Medicine was opened as a department of Illinois College in 1843 at Jacksonville. True this school was opened only one month earlier than Dr. Brainard's School, now Rush Medical College, but it is proper and right that the Illinois College Department have the credit of being the first, especially as the original building which housed the school is still standing. A marker will be planted, as a part of the ceremonies, to indicate to future generations the site of this first Medical School in Illinois.

The exact date of the celebration has not been decided further than that it will be one day during the first week of September. We hope as many physicians as possible will avail themselves of the opportunity to hear on this occasion some especially notable and interesting addresses on the history of Medical education, especially in the Middle West. The exercises will be held in a grove on the beautiful campus of Illinois Col-

lege, near the site of the School. It is expected that many will go by auto and basket picnic dinners on the campus will be in order.

Details may be obtained by applying to the local committee consisting of Drs. D. W. Reid, Wm. P. Dunean, H. A. Chapin, E. F. Baker and Carl E. Black (Chairman).

HEALTH INSURANCE

Following is a brief submitted by the Commissioner of Health, J. Lewis Amster, M.D., in criticism of the so-called Nicoll bill providing for health insurance for employes and dependent members of their families:

"Health insurance is undoubtedly one of the most important problems that confronts the medical profession today. It is the consensus of opinion that there is a most urgent need for the extension of the intelligent and effective medical care and treatment of the wage-earning class of this community.

"The controlling factor, from a public health standpoint, in considering the physical needs of all the people of the State of New York, as distinguished from a particular class, in order to promote the general health and welfare, is the absolute necessity of placing the greatest possible emphasis upon precautionary measures in the prevention of the spread of disease. Modern health work is based upon this fundamental principle.

"This Health Insurance Bill enunciates the principle that preventive treatment is a secondary consideration and merely furnishes a measure of supposed relief and practically no prevention. From a public health standpoint, this bill is objectionable because it fails to properly provide for the prevention of the spread of disease. The administration of this law is vested in the Industrial Commission of the State. The Health Insurance Bill adds to the enormous powers already vested in the Commission in other fields, and in order to administer the provisions of the Nicoll Bill, it is authorized to create a Bureau of Health Insurance with competent medical direction.

"The wide field of regulation opened under the provision of this bill demands that the administrative functions involving vast discretionary features should be vested exclusively in a particular body. Such a body should not be burdened with other problems, no matter how closely allied such problems might be with the principles involved in the measure under consideration. The consideration of the problems arising out of the enforcement of the provisions of the Health Insurance Law should not be subordinated to or complicated with the state control of other activities. Under these circumstances, this feature of the bill is objectionable.

"There is an absolute disregard in the proposed measures of the rights of the medical profession. Public Health work in all its branches is dependent,

to a great extent, upon the co-operation of practitioners. The solution of health problems lies with physicians, and without their aid and co-operation the problems which confront that branch of the government which is entrusted with the care and promotion of health and the prevention of the spread of disease will never be solved. To the high ideals maintained by this class of professional men, to their untiring and unselfish devotion to duty, to their maintenance of the highest standards and conditions of medical practice, and to the ethics which they maintain in the practice of their profession, is due, in a large measure, the tremendous advance that has been made in public health work.

"The practice of medicine is a profession and not a commercial affair. It does not provide a commodity to be weighed, measured or sold, but furnishes a service invaluable and measured by the conscience of the physician.

"What consideration is given, under the provisions of the measure under discussion, to the medical profession?

"1. It makes the profession a business, because it places a premium upon the number of patients an individual physician can handle.

"2. It subordinates his technical experience, training and judgment to that of laymen, by failing to provide proper representation in the administrative branch charged with the enforcement of its provisions.

"3. It will, inevitably, result in the lowering of the high standards which govern the professional work of physicians.

"The ethical, skillful and experienced practitioner does not have to make any compromise with his conscience. The conditions created by the terms of this measure will tend to promote such compromises of conscience, and by placing a premium upon the number of patients attended, have a tendency to break down the high ideals which govern the conscience of a reputable physician.

"Is it better for a patient to have competent medical services within his means of payment, or to have indifferent medical care which is considered free to him?

"From a public health standpoint, competent treatment is absolutely necessary to protect the health and welfare of the community. Legislation which would tend to encroach upon the field in such a manner is objectionable, both from the standpoint of the Health Department and from the standpoint of physicians.

"I am thoroughly convinced that it would be a most serious mistake for the Legislature to consider the passage of this most drastic Health Insurance Bill, and I desire to register my disapproval of the provisions of this measure on the grounds that the objectionable features mentioned are of such vital weight and importance as to overbalance some of the commendable features of the said measure."—*Weekly Bulletin New York Department of Health.*

April 13, 1918.

ANNUAL MEETING TRI-STATE DISTRICT MEDICAL SOCIETY, MADISON, WISCONSIN

WAR PROGRAM

August 19, 20, 21, and 22, 1918.

ANNOUNCEMENT

The Tri-State Medical Society extends to the physicians of Wisconsin, Iowa, and Illinois a hearty invitation to be present at its annual scientific, clinical and social meeting to be held in the State Capitol building (assembly chamber) Madison, Wisconsin, August 19, 20, 21, and 22.

A large portion of the time of this year's meeting will be taken up with subjects pertaining to the medical phase of the war.

Surgeon General William C. Gorgas of the United States Army has conferred a great favor upon the society by agreeing to be present, if possible. The society is also very fortunate in having upon its program Major Hubert Work and Colonel Easby-Smith, along with the medical aides, Drs. Rock Sleyster of Waupun, John M. Dodson of Chicago, and W. W. Pearson of Des Moines, who will have charge of a conference of exemption boards to be held on the second day of the meeting. We feel deeply grateful to Provost Marshall General Enoch H. Crowder for designating Major Work and Colonel Easby-Smith to represent the Provost Marshall General's office.

The military feature of the program is also being greatly aided by the hearty co-operation of the medical corps of the military camps of Iowa, Wisconsin and Illinois. Each of the corps has designated members of its staff to take part on the program. An invitation has been extended to all the medical officers, and the indications are now that all those who can be spared will be present.

The Tri-State District Medical Society is to be congratulated upon securing the presence of the large number of distinguished men who appear upon the program. Besides those already mentioned, are Dr. Austin Flint, Major Fred Albee, and Dr. Charles Kerley of New York; Dr. Charles W. Burr, Edward Davis, and Howard Russell of Philadelphia; Major Joseph Bloodgood of Baltimore; Dr. William Lower of Cleveland; Colonel Frank Billings, Major L. L. McArthur, Dr. J. Rawson Pennington, Major John M. Dodson, and Dr. Alexander Craig, Secretary of the A. M. A., of Chicago; Dr. Gustave Windesheim, President of the Wisconsin Medical Society, of Menasha; Dr. Max E. Witte, President of the Iowa Medical Society, of Clarinda; and Dr. Edward Fiegenbaum, President of the Illinois Medical Society, of Edwardsville. Practically all of these men are connected in some manner with the war work, and are making a great sacrifice in order to attend the meeting. We feel sure that they will receive a hearty welcome and a large and appreciative audience from among the physicians of Iowa, Wisconsin and Illinois. The physicians from the three states who are on the

program for papers, it is needless to say, are from among the foremost of the profession in their states. These men are doing their bit for the Government at the present time, and are giving their valuable time to the meeting because they feel that they are thereby rendering a service to the profession.

Another very interesting part of the program will be the diagnostic clinics which will be held every morning of the meeting, and will cover the different fields of medicine and surgery. They will be conducted by the notable men of the profession who will be the guests of the association. The Madison physicians are arranging for an abundance of material for these clinics. Physicians from other cities and towns who have interesting or obscure cases for diagnosis are urged to bring them to the clinics. Information can be obtained in regard to the matter by writing Dr. T. W. Tormey, Chairman of the Surgical Committee, and Dr. H. P. Greeley, Chairman of Medical Committee.

PROGRAM OF TRI-STATE DISTRICT MEDICAL SOCIETY

First Day, August 19, 1918

10 to 12 a. m.—Registration in Lobby of Assembly Chamber, State Capitol.

12:30 to 2 p. m.—Luncheon in Capitol Cafe—under the Dome.

2:00 to 5:00 p. m.—Visits through State House, University and other points of interest. Golf at Maple Bluff Golf Club. Golfers bring your instruments.

8:30 p. m.—Take boats at foot of S. Carroll street, two blocks below Park Hotel, for Esther Beach. Dancing in Open Air Pavilion.

Second Day, August 20, 1918

7:00 a. m.—Diagnostic Clinic (Surgical) Major Joseph Colt Bloodgood.

9:00 a. m.—Address of Welcome, Mayor J. C. Sayle.

9:30 a. m.—Response to Address of Welcome, Dr. J. H. Guthrie, Honorary President Tri-State District Medical Society, Dubuque, Iowa.

9:50 a. m.—Diagnosis of Cardiac Conditions from the Standpoint of Military Service, Dr. J. S. Evans, Madison, Wisconsin.

10:00 a. m.—Syphilis of the Thyroid Gland with a Review of Recent Literature, Dr. Don Deal, Springfield, Illinois. Discussion: Open.

10:30 a. m.—The Thyroid Gland, Its Functions and Diseases, Dr. W. J. Herrick, Ottumwa, Iowa. Discussion: Dr. A. M. Miller, Danville, Illinois.

10:50 a. m.—A Study of One Thousand Cases Operated upon for Goiter, Dr. E. P. Sloan, Bloomington, Illinois. Discussion: Dr. R. H. Jackson, La Crosse, Wisconsin.

11:10 a. m.—Address in Obstetrics, Dr. Edward Davis, Philadelphia, Pennsylvania.

Afternoon Session

1:15 p. m.—The Feeding of Babies with Reference to Abnormal Bowel Movements, Dr. John W. Van Derslice, Oak Park, Illinois.

1:35 p. m.—Trachoma and Its Relation to the General Practitioner, Dr. Corydon G. Dwight, Madison, Wisconsin. (Lantern Slides.) Discussion: Dr. Frederick A. Davis, Madison, Wisconsin.

1:55 p. m.—Address in Children's Diseases, Dr. Charles Kerley. Subject: Gastro-Intestinal Disorders Dependent upon Mechanical Agencies in Children. (Lantern slides.)

2:55 p. m.—Our Duty to the Registrants, Dr. W. L. Allen, Davenport, Iowa. Discussion: Open.

3:15 p. m.—Conference of Local, District and Medical Advisory Boards in regard to the selective service regulations, in charge of Major Hubert Work and Colonel Easby-Smith of Provost Marshal General's Office, Washington, D. C., together with Medical Aids, Rock Slyster of Waupun, John M. Dobson of Chicago, and W. W. Pearson of Des Moines, Iowa.

1:00 p. m.—Ladies Entertainment, Progressive Luncheon. Ladies will meet at the Rotunda of the Capitol.

7:30 p. m.—Orpheum Party.

Evening Session

7:00 p. m.—The Surgery of the Gall Bladder and Ducts, Dr. James N. Neff, Chicago, Illinois. Discussion: Dr. Jos. Dean, Madison, Wisconsin.

7:30 p. m.—Fractures of the Extremities, Dr. P. A. Bendixen, Davenport, Iowa. Discussion: Dr. C. W. Hopkins, Chicago, Illinois.

7:50 p. m.—Address in Surgery, Dr. Benjamin Davis, Chicago, Illinois. Subject: Blastomycosis. (Lantern Slides.)

8:35 p. m.—The Roentgen Diagnosis of Gastro-Intestinal Lesions of the Upper Right Quadrant, Lantern Slides of Ulcers under Medical Management; Mistakes in Diagnosis, Dr. J. W. Rountree, Waterloo, Iowa. Discussion: Dr. Charles R. Bardeen, Madison, Wisconsin.

8:55 p. m.—Address in Surgery, Dr. J. Rawson Pennington, Chicago, Illinois. Subject: A Consideration of the Carrel-Dakin Method of Treating Wounds and the Paraffin Wax Treatment of Burns. (Lantern Slides.)

9:40 p. m.—Radium as an Aid to the Surgeon, Dr. C. W. Hanford, Chicago, Illinois. Discussion: Dr. W. E. Bannen, La Crosse, Wisconsin.

Third Day, August 21, 1918

Morning Session

7:00 p. m.—Diagnostic Surgical Clinic, Major John B. Deaver, University of Pennsylvania; Pediatric Clinic, Dr. Charles Kerley, Professor of New York Post Graduate School, New York.

9:00 a. m.—Vomiting Conditions, Dr. Paul E. Gardner, New Hampton, Iowa. Discussion: Open.

9:20 a. m.—Practical Ideas Regarding the Treatment of Acidosis, Common, Called Uremia, Dr. J. H. Stealy, Freeport, Illinois. Discussion: Open.

9:40 a. m.—To Mendota by Boat or Cars.

10:20 a. m.—Psychiatry and the War, Dr. Arthur

W. Rogers, Oconomowoc, Wisconsin. Discussion: Open.

10:40 a. m.—Delusions, Illusions, and Hallucinations of Exceptional Character Found in a Series of Psychoses, Dr. Richard Dewey, Wauwatosa, Wisconsin. Discussion: Open.

11:00 a. m.—Clinic, Mental Diseases; address in Mental Disease, Dr. Charles W. Burr, Philadelphia, Pennsylvania. Subject: The Relation of the Ductless Glands to Mental Function.

12:30 p. m.—Luncheon at Mendota State Hospital.

Afternoon Session

1:45 p. m.—Abdominal Emergencies, Dr. D. J. Twohig, Fond du Lac, Wisconsin. Discussion: Dr. Gilbert Stannard, Sheboygan, Wisconsin.

2:05 p. m.—Sarcoma: Reports of Three Cases, Dr. J. H. Guthrie, Dubuque, Iowa. Discussion: Dr. W. T. Sarles, Sparta, Wisconsin.

2:25 p. m.—Address in Surgery, Major Joseph Colt Bloodgood, Baltimore, Maryland. Subject:

3:25 p. m.—The Bacteriology of Some of the Acute Infectious Diseases, Dr. W. D. Stovall, Madison, Wisconsin. Discussion: Dr. Sheldon Clark.

3:45 p. m.—Ureteral Calculi, Dr. William Jepson, Sioux City, Iowa. Discussion: Dr. P. L. Markley, Rockford, Illinois.

4:05 p. m.—Address in Medicine, Dr. Howard Fussell, Philadelphia, Pennsylvania. Subject: Necessity and Practicability of Laboratory Work in the Practice of the Family Physician.

3:30 to 5:00 p. m.—Automobile Tour of the City for Ladies, assemble at New Park Hotel, tea at Country Club.

Evening Session

7:00 p. m.—Skin Grafting, Dr. John F. Pember, Janesville, Wisconsin; Dr. T. W. Nuzum, Janesville, Wisconsin. Discussion: Dr. Karl W. Doege, Marshfield, Wisconsin.

7:20 p. m.—Subject announced later, Dr. Carl E. Black, Jacksonville, Illinois. Discussion: Open.

7:40 p. m.—Address in Surgery, Major Fred H. Albee, New York City, New York. Subject: Reconstruction Military Surgery. (Moving pictures and lantern slides.)

9:00 p. m.—Address in Surgery, Dr. William Lower, Cleveland, Ohio. Subject to be announced.

10:00 p. m.—Smoker at Madison Club, with entertainment features.

Fourth Day, August 22, 1918

Morning Session

7:00 a. m.—Diagnostic Surgical Clinic, Dr. Austin Flint, Philadelphia, Pennsylvania.

9:00 a. m.—Thrombosis from Contusion of the Arteries of the Lower Extremities, Dr. David Fairchild, Clinton, Iowa. Discussion: Dr. J. F. Smith, Wausau, Wisconsin.

9:20 a. m.—The Regimental Surgeon, Major R. C. Bourland, Rockford, Illinois. Discussion: Open.

9:40 a. m.—Address upon Medical Questions of the Day, Dr. Alexander Craig, Secretary American Medical Association, Chicago, Illinois.

10:20 a. m.—Subject: Not Announced, Major J. C. Dallenbach, Designated by Camp Robinson, Wisconsin.

10:40 a. m.—The Principles which Must Govern the Plastic, Facial, and Oral Restorations for War Injuries, Dr. Geo. V. I. Brown, Milwaukee, Wisconsin. Discussion: Dr. D. D. Culver, Aurora, Illinois.

11:00 a. m.—Address in Gynecology, Dr. Austin Flint, New York. Subject: A Contract Between the Radical and Conservative Methods of Treatment of Eclamptic Conditions.

Ladies Boat Ride and Luncheon.

Afternoon Session

1:00 p. m.—Military Subject, Major W. G. Alexander, Designated by Camp Dodge, Iowa.

1:20 p. m.—Duties of the Medical Officer, Major Harry S. Gradle, Designated by Camp Grant, Illinois.

1:40 p. m.—Address: Surgeon General William C. Gorgas, Washington, D. C.

2:40 p. m.—Address: Colonel Frank Billings, Chicago, Illinois.

3:40 p. m.—Address: Major John B. Deaver, Philadelphia, Pennsylvania.

4:40 p. m.—Address: Major L. L. McArthur, Chicago, Illinois.

7:00 p. m.—Banquet for Doctors and Their Ladies. Lathrop Hall.

Evening Session

6:30 p. m.—Banquet for Doctors, Ladies and Invited Guests. Toastmaster, Judge J. B. Winslow, Chief Justice of the Wisconsin Supreme Court.

Addresses

Governor E. L. Philipp of Wisconsin.

William C. Gorgas, Surgeon General, United States Army.

Guests of the Association.

Dr. Gustave Windesheim, President Wisconsin Medical Society.

Dr. Max T. Witte, President Iowa Medical Society.
Dr. Edward Fiegenbaum, President Illinois Medical Society.

(Signed)

WILLIAM B. PECK, President,
NELSON C. PHILLIPS, Secretary.

Program Committee:

WILLIAM T. LINDSAY, Madison,
HENRY G. LANGWORTHY, Dubuque,
CHARLES L. BEST, Freeport.

Public Health

WORK OF THE STATE DIVISION OF SOCIAL HYGIENE

The active work of the State Department of Public Health in the prevention of venereal diseases, particularly in the vicinity of the several military cantonments, has been put on a more permanent basis through the creation of a Division of Social Hygiene of Which Dr. G. G. Taylor is Chief. As a result of the activities of this division, there are now about 275 prostitutes, infected with syphilis, gonorrhea or both, receiving treatment in hospitals throughout Illinois, the expense of this treatment being met by the counties in which they reside.

Quite recently the Division, for the first time, placarded premises in which there were cases of venereal disease and the results were found thoroughly satisfactory. This was in East St. Louis, located near the military camp at Belleville. Fifteen immoral resorts were placarded with red placards, eleven by fourteen inches in size, bearing the inscription in large black letters: "Venereal Disease Here. Keep Out."

The rules and regulations of the State Department of Health, under which the Division of Social Hygiene operates, have been subjected to important changes within the past few weeks. In cases of syphilis, the individual is regarded as infectious and subject to quarantine until there has been a negative Wasserman test. The test must be made in the laboratories of the State Department of Health. In cases of gonorrhea, quarantine is not ended until at least two smears have been taken from cervix, urethra and vagina and have been found negative in the State laboratories. The smears must be taken at least forty-eight hours apart.

ILLINOIS BETTER BABIES CONTEST

The Illinois State Fair, which usually occupies a little over a week during the late summer, will this year take the form of a State Centennial Exposition, covering a period of about three weeks. One of the important features of this exposition, rendered especially interesting through the war-time accent that has been placed on child welfare work, both at home and abroad, will be the better babies contest conducted by the State Department of Public Health. This contest will begin August 12th, and will last for twelve days.

In addition to the baby scoring and other features which have attracted attention, the Department is creating a medical advisory service in which it will enlist a large number of the best known pediatricians in the State. These physicians will be constantly in attendance and, through a new plan, the scores attained by babies will be known to the mothers within one hour after examination so that the advice of these consultants may be sought without delay.

Entries for the contest will close on August sixth.

PREVENTION OF COMMUNICABLE DISEASES IN CANTONMENTS

The State Department of Public Health is taking steps to co-operate with the Federal agencies and calls upon local health officers and physicians of Illinois to aid the prevention of communicable diseases being introduced into military camps and cantonments by soldiers who are at home on leave or by recruits going into service.

According to a special letter of the Council of National Defense, the plan involves the following: (1) As Regards Local Health Officers: The local health officer of each community is asked to notify the Senior Medical Officer of the Camp or Post concerned, (a) Whenever a selected or enlisted man is known to be about to go to a Camp or Post whether on first call or on return from leave or furlough. (b) And, at the same time, communicable disease is prevalent in the community, either in epidemic proportions or (when not epidemic) in such manner that the returning soldier has possibly been exposed thereto. The notification should be made by telegraph or telephone, to the senior medical officer of the Camp or Post, and should be explicit, stating the nature of the disease, and giving the name, address and other identification of the returning soldier. In addition, a duplicate notification should be sent to the State Department of Health.

(2) As Regards Physicians: (a) In communities in which there is no regular health officer, every physician who knows of a case of communicable disease to which a soldier about to return to a Camp or Post has possibly been exposed, should telegraph or telephone the details to the State Department of Health, which will at once notify the senior medical officer of the Camp or Post. (b) In other communities, physicians are asked to uphold the hands of the local health authorities by exercising unusual care in reporting all cases of communicable disease and by bringing to their attention all instances where a man about to go or return to camp, has possibly been exposed to communicable disease.

It will be borne in mind that this reporting for military purposes is in addition and does not in any way take the place of reporting communicable diseases to health officers as prescribed by the rules of the State Department of Public Health.

NEW HEALTH EXHIBIT MATERIAL FOR THE CENTENNIAL STATE FAIR

About 40,000 square feet of floor space will be occupied by the exhibit of the State Department of Public Health in connection with the Illinois State Fair at Springfield this year. The exhibit will include a large amount of material drawn from the U. S. Public Health Service and child welfare material from the Elizabeth McCormick Memorial Fund. Special interest, however, is attached to the new mechanical devices and other features originated by the State Department of Public Health and which will be shown

at the State Fair for the first time. After the Fair this new material will be incorporated in the traveling exhibits which are sent out through all parts of the state. Among the new mechanical devices will be found a model illustrating contact infection of typhoid fever, another illustrating the pollution streams and protection afforded by water purification works and a third, known as "The Village of a Thousand Souls" demonstrating the number of deaths from preventable diseases occurring annually in the ordinary small community. Other new models will be devoted to the sanitation of farm houses, rural schools, and grocery stores; to rat proof construction; disease propagation through flies, etc. A series of wax figures will show clearly the essential features of the more common communicable diseases.

Another interesting feature of the exhibit will be continuous health talks given by well known cartoonists. The exhibit will be open during the entire duration of the Fair, from August 9th to 26th.

FEDERAL INVESTIGATION OF ILLINOIS VITAL STATISTICS

Whether Illinois will be accepted as a registration state by the U. S. Bureau of the Census will be determined during early autumn. Federal Inspectors will begin their active work in the State on September first and will check up the report of births and deaths to determine how completely reports are being made. A great deal of preliminary work has already been done by the federal authorities so that they will be in position to detect deficiency with the greatest accuracy. It is understood that the first records to be examined are those of April, May and June, 1918, after which the records of the year 1917 will be taken up.

If Illinois fails to receive recognition from the Federal Government at this time it will be on account of failure to observe the law on the part of physicians, midwives, undertakers, sextons, and parents and not due to the character of the law itself. The Illinois Birth and Death Act is a good one. If its provisions have been observed during the past year there is no question that Illinois will be classed as a registration state. There is still time for those who have failed to comply with the provisions of the law to make amends for their neglect. It is especially urged that all births and deaths so far not reported shall be brought to the attention of registrars at once.

PREVALENCE OF POLIOMYELITIS

While the prevalence of infantile paralysis is less marked than during 1916 and 1917 when there were 944 and 834 cases reported, respectively, and while there is nothing to cause apprehension of a serious outbreak of the disease this year, a number of communities in Illinois are reporting new cases at this time. During the month of July, up to and including the 25th, the State Department of Public Health had received reports of 41 cases, making the total since

January first, 147. Following its custom established three or four years ago, the Department has caused each of these cases to be thoroughly investigated by special representatives or District Health Officers. These investigations have eliminated 17 of these cases as not being poliomyelitis, leaving a total of 130 actual cases of the disease.

At the present time interest centers about the situations in JoDaviess County and in the vicinity of Kankakee poliomyelitis prevails in and about Dubuque, Iowa, in more or less epidemic form, some sixty or seventy cases having been reported and the disease is extending into Illinois; three cases being reported at East Dubuque; three at Galena and one at Nora. All of these cases were reported during July. The State Department of Health has a District Health Officer constantly in service in that section.

During the same period six cases have been reported from Kankakee. In Pierce Township in Kane County there were four cases reported, all confined to the members of one family and all cases ending fatally.

It is believed by the State Department of Public Health that cases are being recognized earlier by the medical profession than ever before in the history of the State and the reports of cases are more complete and it is consequently believed that the records of the Division of Communicable Diseases report more nearly the actual poliomyelitis conditions in the State than at any time in the past.

TYPHOID EPIDEMIC AT MOLINE

A fresh outbreak of typhoid fever during the latter part of June and July following a similar prevalence of the disease during January and March of this year is causing serious concern at Moline, Rock Island County. Up to March of this year there has been something over one hundred cases of typhoid fever which seem to be attributable to the public water supply. Certain faults were found in the treatment of the water supply and suspicion was also thrown upon the dual water system maintained in some of the industrial plants whereby there was means of intercommunication between the filtered and treated water supplies and the raw water supplies drawn from the the Mississippi river and employed for industrial purposes.

During April and May very few cases were reported, but during the month of June the disease reappeared in epidemic form. Since that time there have been approximately 135 new cases.

Corrections in the water treatment plant recommended early in the year could not be made until very recently and it is hoped that these corrections will result in a decided decrease in the prevalence of the disease. In the meantime the State Department of Public Health whose engineers and district health officers are in constant touch with the situation, is recommending the general use of typhoid vaccine and insisting upon vaccine immunization on the part of

all contacts and the inmates of homes in which the disease has been found.

While painstaking investigations conducted by the State Department of Public Health point to the water supply as the source of infection, every other possible source of the disease is being followed out and the exact cause of the epidemic will be reached by an exhaustive process of elimination.

The cause of a dual water supply of pure and impure water with means of inter-communication in industrial plants brings to mind the serious epidemic of typhoid fever traced to that source in the plant of the Elgin National Watch Company at Elgin some time ago.

WATER SUPPLIES OF COMMON CARRIERS

The Division of Sanitary Engineering of the State Department of Public Health has begun the examination of sources of water supply used in the cars and at stations of common carriers and an investigation of the purity of these supplies. Water samples collected at the source and in cars and stations are being examined in the laboratory of the Division.

DIRECTORY OF STATE REGISTRARS

The State Department of Public Health is issuing a directory of the local registrars of vital statistics of whom there are something more than 1,600 in the State. This directory will be prepared for free distribution for the convenience of physicians, health officers, undertakers, and local registrars.

BIRTH REGISTRATION AND THE DRAFT

The Division of Vital Statistics of the State Department of Public Health is receiving large numbers of requests for birth certificates extending back over a considerable number of years. The chief cause for this increase in demand for certificates is due to the selective draft, since official record is often essential in establishing the exact age of registrants. On account of the neglect of birth registrars in the past the State Department of Public Health is compelled to advise applicants that there are no existing records.

In one case which has come to the attention of the Department, a 17-year-old boy residing at Jacksonville was picked up in a roundup of slackers by federal agents at Detroit. Regardless of the boy's protestations of his age he was held as a slacker pending receipt of an official record of his birth. Both the physician and nurse present at the time of his birth are now dead and his age will have to be established by a number of affidavits from persons conversant with his early life.

In another case a woman now residing in Havana, Cuba, returned to her home in Illinois to be here at the time of the birth of her child. On account of the fact that neither the birth of herself nor her husband had been recorded, this woman is now unable to present evidence of her husband's citizenship and she is consequently being held in New York.

Correspondence

DEPARTMENT OF LABOR

U. S. EMPLOYMENT SERVICE

July 23, 1918.

To the Editor:

DEAR SIR: We beg to direct your attention to the plans of the U. E. Employment Service, and to the great effect which this program will have upon the industrial life of the Nation.

On August 1st, the supplying of war industries with common labor will be centralized in the U. S. Employment Service of the Department of Labor, and all independent recruiting of common labor by manufacturers having a payroll of more than 100 men will be diverted to the U. S. Employment Service. This is in accordance with the decision of the War Labor Policies Board and approved by the President on June 17th. (The War Labor Policies Board is composed of representatives of the War, Navy and Agricultural Departments, the Shipping Board and the Emergency Fleet Corporation, the War Industries Board, and the Food, Fuel and Railroad Administrations. Its chairman is Felix Frankfurter, Assistant to the Secretary of Labor.)

The above action was found necessary to overcome a perilous shortage of unskilled labor in war industries. This shortage was aggravated by an almost universal practice of labor stealing and poaching.

While the restrictions against the private employment of labor apply only to common labor at the present time, these restrictions will, as soon as possible, be extended to include skilled labor. In the meantime, recruiting of skilled labor for war production will be subject to federal regulations now being prepared.

This drastic change in the Nation's labor program has been found necessary in order to protect the employer and the employed, to conserve the labor supply of the communities and to cut down unnecessary and expensive labor turn-over (which, in some cases, is as high as 100 per cent. a week), and to increase the production of essentials.

While non-essential industries will be drawn upon to supply the necessary labor for war work, the withdrawal will be conducted on an equitable basis in order to protect the individual employer as much as possible.

Under the operating methods adopted, the country has been divided into thirteen federal districts, each district in charge of a superintendent of the U. S. Employment Service. The states within each district are in turn in charge of a State Director, who has full control of the service within his State.

In each community there is being formed a local community labor board, consisting of a representative of the U. S. Employment Service, a representative of employers and a representative of the employed. This board will have jurisdiction over recruiting and distributing labor in its locality.

A survey of the labor requirements is being made, and in order that each community may be fully protected, rulings have been issued that no labor shall be transported out of any community by the U. S. Employment Service without the approval of the State Director; nor shall any labor be removed by the Service from one state to another without the approval of the U. S. Employment Service at Washington. Every effort will be made to discourage any movements from community to community or state to state by any other service.

This labor program has the approval of all producing departments of the government, through the War Labor Policies Board.

It must be understood that farm labor will be protected, for the industrial program distinctly includes special efforts to keep the farmer supplied with labor.

The requirement that unskilled labor must be recruited through the sole agency of the U. S. Employment Service does not at present apply in the following five cases:

1. Labor which is not directly or indirectly solicited.
2. Labor for the railroads.
3. Farm labor—to be recruited in accordance with existing arrangement with Department of Agriculture.
4. Labor for non-war work.
5. Labor for establishments whose maximum force does not exceed one hundred.

When the survey of labor requirements has been made and the aggregate demand for unskilled labor in war work is found, each state will be assigned a quota, representing the common labor to be drawn from among men engaged in non-essential industries in that state.

These state quotas will in turn be distributed among localities. Within each locality, employers in non-war work, including those who are only partially in war work, will be asked to distribute the local quotas from time to time amongst themselves. Quotas by localities and individuals are to be accepted as readily as they are for Liberty Loan and Red Cross campaigns. This plan of labor quotas is a protection for all communities.

The object is to keep any community from being drained of labor, and to use local supply, as far as possible, for local demand. The situation, however, is such that in certain cases same men may have to be transported over long distances.

You will note from the above outline that this is probably the most drastic action that the government has taken since putting the National Army draft into effect. The absolute necessity for this program can be seen when it is realized that in Pittsburgh, for instance, there are advertisements calling for men to go to Detroit; while in Detroit street cars there are posters asking men to go to Pittsburgh. This same condition is apparent all over the United States and in consequent shifting of labor a great part of our war effort is dissipated.

Because this is one of the greatest problems facing the nation today, we are asking that you give this matter your careful consideration. You will probably desire to carry some comment on this basic change in the Nation's labor methods, and we would suggest that if you desire to assign one of your men to look into this situation, the facilities of the Department of Labor and the U. S. Employment Service are at your disposal.

Yours respectfully,

J. B. DENSMORE,
Director General.

Society Proceedings

ADAMS COUNTY

The Adams County Medical Society met in regular monthly session with about thirty members present, July 13. In the absence of the president, Dr. M. K. Germann acted as chairman. Secretary read several communications from secretary of state society regarding Adams county's quota, and the members were pleased to know that four men will complete the required number, which is twenty.

How to rid Quincy of "quacks" was the next matter brought up by the secretary and discussed by those in attendance. Finally the matter was referred to the public health and legislative committee with power.

Dr. H. P. Beirne, delegate to the last State meeting, where he was elected councillor for the Sixth district, gave his report, which was well received. The secretary told what took place at the secretaries' conference. Others in attendance at the State meeting were called upon, and each one made a few remarks.

Dr. Kirk Shawgo told the principal happenings of the A. M. A. meeting. Dr. F. R. Morgan reported for the eye, ear, nose and throat section. Dr. Shawgo stated that he was particularly interested in the draft meeting at the A. M. A. of the men in class B. (Remedial Defects.) After discussion of his report, Dr. Nickerson moved the adoption of the following resolution: That members of the Adams County Medical Society hereby offer their services free to prospective soldiers having remedial defects, providing the individual's financial condition warrant it. Be it further resolved that a copy of this resolution be printed in the daily papers. Seconded, carried.

Dr. J. H. Blomer, recently appointed president of the City Board of Health, read the recently amended state rules and regulations for reporting cases of venereal disease.

Dr. John A. Koch reported a case of trypanophthoria, which was the first case before the society for a number of years. The patient was present, and the doctor invited any one who so desired to examine the case. A vote of thanks was given Dr. Koch for bringing this unusual case to the meeting.

For many years the annual outing of the society has been held in August. This year is not to prove an ex-

ception to the rule, so the members will go to Dr. Blickhan's Camp the second Monday in August and have a real lively time. Dr. H. M. Harrison was elected a member.

The application of Dr. E. G. Boyd of Quincy was read and ordered to take the usual course.

Adjourned to meet the second Monday in September.

ELIZABETH B. BALL, Secretary.

CHRISTIAN COUNTY

A special meeting of the Christian County Medical Society was held in the Court House at Taylorville, June 27, 1918, and was called to order at 2:45 p. m. by President F. J. Eberspacher.

Twenty-nine physicians were present.

The minutes of the previous meeting were read and approved.

At the request of the chair, Dr. R. C. Danford was asked to state the object of the meeting, which was as follows:

1. The meeting was called at the request of the Council of National Defense, the American Medical Association and the State Medical Society.

2. To classify all the physicians in the county into the following classes:

Class A. All physicians over 55 years of age and those physically disqualified for the M. R. C., to be designated as the Volunteer Medical Service Corps.

Class B. All physicians under 55 years qualified for the M. R. C.

Class C. Slackers. All physicians refusing to volunteer for either Class A or Class B.

Remarks were made by Drs. Nelms, Lawler, Armstrong, Simpson, L. H. Miller and others, all favorable to the classification.

A motion was made and approved that there be a committee of three appointed to act as a county committee for the Council of National Defense. The president appointed Drs. Danford, Stokes and Armstrong. This committee will send blanks to every physician in the county with a request to sign either for the M. R. C. or the Volunteer Medical Service Corps.

Dr. T. A. Lawler made a report of the progress that had been made in regard to organizing the county for tuberculosis work. The following officers have been selected: President, Mr. Jesse Patterson; vice-president, O. B. Brittin; secretary, Mrs. A. G. Armstrong. All were urged to get behind the Glackin law and boost, as it is to be submitted to the voters of the county at the fall election.

A motion was made and approved that the society pay the state and county dues of its members that are in the service of the U. S. during the time of such service; and that the county dues be increased to \$1.00 a year to cover same.

WALTER BURGESS, Sec.-Treas.

COOK COUNTY

CHICAGO OPHTHALMOLOGICAL SOCIETY

Meeting of Dec. 17, 1917—Continued

He felt that this operation accomplished one of the things wished for, and that was a new route for drainage, which was accomplished better than by trephining, and with much less subsequent danger of infection.

We all know from experience that many patients have a prolapsed iris in case of injury, but secondary infection is rare. He had seen only one case of late secondary infection after iris prolapse, and that was shown by Dr. Gradle Sr. a number of years ago, and Gradle had reported two cases of late secondary infection in cases of prolapsed iris.

DISCUSSION

Dr. Michael Goldenburg considered iridotaxis the most satisfactory operation for glaucoma that he had ever seen performed. The simplicity of it appealed to anyone. There was hardly any chance of doing harm, and the fact that a definite communication was established between the anterior chamber and the subconjunctival space was a distinct advantage. The only question was, did the iris remain as a drain or did it fill up with connective tissue? The operation was at present too new for a definite statement to be made, and this could only be done when some of the eyes came to the pathological laboratory. In his case the tension had been kept down all the time. When the operation was first reported some time ago great stress was laid upon drawing the iris up into the wound, feeling that drawing the iris away from the limbus distended the spaces of Fontana so as to permit drainage. He questioned whether this had any real value. In Dr. Faith's case the iris was not stretched very much and in his case he had not done it because he could not see any particular advantage in doing so. He left the iris in the small opening of the limbus and the tension remained down. In this operation one did not get the large bleb as in trephining, and that was where the late secondary infection came. He had seen two late secondary infections following a trephining operation which was due to the bleb where the lid rode over it constantly and eroded the superficial epithelium.

Dr. John R. Hoffman said he did not see how the iridotaxis could appeal to anyone. He thought the only operation of first consideration in glaucoma was a broad iridectomy and could not see why the iridotaxis was better.

Dr. Clark W. Hawley stated that he had been trying for the last year and a half to get away from mutilating the eye. The whole subject got down to what was the cause of glaucoma. He did not mean not to do an operation and the other things that had been done in the past for glaucoma, but the cause of glaucoma had never been established. The man who first brought the subject out had been thinking along the same line, but for several years and independent of him the speaker had been studying up what he thought was the cause for many of the cases, especially the inflammatory ones, and that was some phase of focal infection. The only phase which he had met with so far was autointoxication. He had under his care five cases of glaucoma; three of them his and one of his assistant's, in which no operation had been done, and all had been cured so far. He had also one case of simple glaucoma which had been improved very much. That patient had been subjected to an iridectomy by a physician in New York, but this was without any benefit. The eyes now are both very much improved and the recurring attacks were further and further apart. He was convinced that the trouble came from some focal infection, either

involving the canal, producing an inflammation which might gradually stop it up or induce an inflammatory condition of the choroid, thus producing an extra exudate and then an overflow which could not be carried off.

Dr. Risley of Philadelphia had almost ceased doing iridectomy. The inflammatory glaucoma was much more susceptible to the treatment than the simple glaucoma. An operation might be beneficial in some cases because in doing a cutting operation the connective tissue or inflammatory condition would also be reduced. He did not believe that the operation in glaucoma opened up the canal, but it was the influence of the operation on the connective tissue which was of benefit. These four cases had all been treated entirely without operations and some were over a year old.

Dr. W. A. Fisher agreed with Dr. Hawley concerning his treatment of washing the lower bowels. He was treating a case with eserine in the eye and rectal flushing such as Dr. Hawley suggested some time ago and was sure that the treatment was often effective. He also agreed with Dr. Hoffman that an iridectomy was the best operation for reducing tension, providing one could always make a good iridectomy, but many could not, especially if a very shallow anterior chamber was present. He had operated a great many times when the tension was not reduced, but believed the poor result was due to an improperly performed iridectomy and he believed that an iridectomy that was done properly, usually accomplished the same work as trephining. He considered Smith's iridectomy made with a narrow cataract knife, cutting upwards instead of downwards, the best operation, as also the simplest and easiest to perform. He also agreed with Dr. Faith that an iridotomy was a good operation and possibly the best one, especially for those who operate seldom and do not feel sure of a good iridectomy. He thought the principal thing to do was to get a deep iridectomy. Dr. Faith has a good result in the case he has presented which is convincing. He thoroughly believed with Dr. Hawley that it is most desirable to use enemas in all cases, no matter what method of operation was performed or what treatment was given.

Dr. Clark Hawley stated that twenty-two years previously he had removed the eye of a patient for a severe ophthalmia. One year ago she was taken with what she described as blind spells, coming at first once a week and later once a day. In January they were as frequent as twice a day, but absolutely nothing had been done. She did not come to him for treatment because she owed him a bill. When she did come her vision was 20/200. At that time he was treating two patients with his elimination method and wished to see what this treatment would do in such a case as hers. He treated her for four or five days with rectal enemas and since then she had had not a single attack of glaucoma; from the first night there had been no attack of inflammatory glaucoma. He thought it was far better to get at the cause of the disease and treat it than to operate, but he thought this treatment could not be carried out with cathartics. When the autointoxication was cured the patient got well.

Dr. Thomas Faith thought it would be an excellent idea to have a symposium on glaucoma. The case he reported was not an inflammatory or congestive glaucoma, but the simple primary form. The patient had only one eye. She had received citrate of soda injections a la Fischer and everything had been done that could be done, but she was losing her vision in spite of everything. The iridotomy has kept her vision in spite of everything. He thought that the fact that there were so many different operations for glaucoma showed that there was no perfect one. In a simple glaucoma it was either a myotic or an operation no matter what the cause was. He had tried the suggestions made by Dr. Hawley on this patient, but he thought if this operation always established a new route for drainage it would be a successful operation. He thought pathologists would bear him out in

saying that when good results were obtained from iridectomy it was because there was a filtering scar left. He could not share Dr. Hoffman's enthusiasm for the infallibility of iridectomy. He believed that trephining often relieved the tension, but thought if there was no bleb there was no result. In one case of trephining of both eyes, that of a woman over sixty, who had gone along for two years without a secondary infection and with the tension normal, tension remained in proportion to the size of the bleb she had, which varied from time to time. In this case of iridotaxis there is a bleb surrounding the iris, not as large as you get with trephining, but of good size, and when the bleb is larger the tension is lower.

Dr. W. A. Fisher reported two cases of lens extraction, one of which was cataracta nigra. The first, Mr. V., aged 57 years, whom he had operated for cataract four weeks previously. The lens was removed without any complication and it proved to be a cataracta nigra. He naturally expected 20/20 vision because the lens was removed in capsule and there was no postoperative inflammation. The principal point he brought out was the existence of a sluggish pupil, which was explained to the patient before operating. Another point was that the nerve head after operation appeared pale, as if he might have atrophy, but he did not know what a normal field was after a cataract operation. He thought it would be an important point to establish the normal field after a cataract operation, because if a field was contracted below this normal, one could distinguish an atrophy and be sure of it at once as easily as could be done if the lens was in the eye, but a standard must be first made.

The second case was a man aged 70, who had come from a long distance and did not have sufficient money to remain in the hospital a long time for treatment. The right lens was mature, the left 20/200. There was a dacryocystitis in the right eye and the left was clean. To have operated upon the right mature lens, it would have been imperative that the lachrymal sac be operated upon and free from bacteria before operating for cataract.

He prevailed upon the patient to have the clean eye operated upon as he could do it at once and not decrease his prospects of good vision. The left eye was operated five weeks previously and he now has 20/25. The lens was so large that it seemed impossible to remove it without danger and the needle was used to assist delivery. This ruptured the capsule, but when the lens is pushed up into the opening and the needle is used, even if the capsule ruptures, all of the cortical usually comes out. He brought out the fact that this patient had 20/200 vision in the clean eye and the other was perfectly opaque and ready for the classical operation.

By removing the lens in capsule, it would seem that an immature cataract would be selected rather than a mature when the mature was complicated by a dacryocystitis and the immature clean. He brought out the fact that the needle he had divined had been used and the capsule ruptured, but also stated that the capsule was not always ruptured when the needle was used, but he believed it was not a serious matter if the lens, ruptured by the needle, because the cortical usually all came out because the lens was in the opening and pressure was being used to expel it at the time of rupture. He believed the only objection was the liability of a secondary needling. The lids were not opened in either of these cases until the ninth day, and neither of them had any postoperative inflammation.

Dr. Francis Lane thought that after the lens was extracted the iris did not hang forward, but would drop down as a curtain because it had no support. It might cut off some of the peripheral field, but still it would be functioning. It would be pushed back toward the center of the eyeball.

Dr. W. A. Fisher was pleased to know that Dr. Lane believed that after the lens was removed in capsule it did not draw up so high that the patient could not see at all, but instead dropped back. He considered the fields very

important and stated that in a field taken from Mr. H., who had practically a normal eye with the lens removed, that the fields appeared to be contracted.

He had taken two fields, exhibiting chart, one with and the other without correction, and they were practically the same. In the other case, Mr. V., in which he suspected an atrophy because of the whitening of the nerve head, the fields were the same as in Mr. B.

Dr. L. J. Hughes reported a case of right monocular diplopia. The patient was a man, 57 years of age, who was quite a hunter. He had complained for three or four years. In the right eye vision was 20/30 with correction; in the left 20/20 with correction. Examination of the right eye showed it to be normal so far as it could be made out; he only had the patient's word that he saw double. He claimed to have seen the gun barrel double. He had tried him with correction with no effect on the diplopia, but a mydriatic took away the diplopia. He used this before he went hunting. Dr. Hughes thought it might be a case of hysteria; the patient claimed that objects changed their shape. When shooting at clay pigeons they might be horizontal at one point and vertical at another.

Dr. W. A. Fisher said that in his experience with injuries, the patient would occasionally complain among other things of double vision with the uninjured eye, but he believed the principal incentive was to make a better settlement for the injury. He could easily understand that candidates for the army or navy might sometimes complain of double vision with one eye, but that would probably be for exemption. He did not believe one with a seeming normal eye, as the one Dr. Hughes presented, could possibly have diplopia with one eye, and it must be a neurosis.

Dr. Clarence Loeb asked if the patient saw two objects side by side or one over the other.

Dr. Hughes, in replying to Dr. Loeb, said that he had to take the patient's word for it that he saw double at all, and he thought it might be psychic. He saw one image quite distinctly, but the other was more like a shadow.

Dr. Thomas Faith thought it was an accepted fact that monocular diplopia must be due to something interfering with the lens or vitreous, or hysteria. He had seen one case of monocular triplopia.

Dr. Hughes stated that in a young woman of 25, following an attack of typhoid fever, there had been trouble with both eyes in which so many objects appeared, all horizontal, that she could not count them and they were always present, more or less oscillating. He could never find any pathological lesions to account for it.

MAJOR H. WORTHINGTON, M. D.

22 East Washington street.

Secretary.

DEKALB COUNTY MEDICAL SOCIETY

The meeting of the Dekalb County Medical Society in Dekalb was called to order at the Country Club, for the purpose of holding the Society's annual picnic, by Dr. C. E. Smith, President, at 2:30 p. m., July 31, 1918. All present participated in a basket dinner arranged and superintended by Mrs. S. L. Anderson and Mrs. J. A. Badgley.

Four doctors were present. Drs. T. B. Moore, J. H. Neubauer, C. L. Nelson and J. A. Lunn were voted in as new members.

Mrs. Emeline Beatty of Decatur, Chairman of Council of National Defense of Decatur unit of the Tuberculosis Association, addressed the meeting on

her work in tuberculosis. She exhorted the doctors and nurses of the County to boost the passage of the Tood Bill for revenue to establish a tuberculosis sanitarium in Dekalb County.

Captain Byfield, M. R. C., U. S. Army, Camp Grant, read a paper on the military aspect of the thyroid problem. The Captain's paper created unusual interest and it was freely discussed. No paper ever read before the society created more general interest.

L. E. BARTON, Secretary.

FULTON COUNTY

The eighty-third meeting of the Fulton County Medical Society met in the auditorium of the Y. M. C. A. building in Canton and was called to order by President Crouch at 2 p. m. July 2.

Dr. Simmons, delegate to the state meeting, reported among other things that Fulton county had been credited with an alternate to the A. M. A. meeting in Chicago but that the state secretary failed to furnish credentials to the alternate. On motion the secretary was instructed to ask the state secretary why credentials were not furnished Dr. J. E. Coleman as alternate. Dr. Shallenberger complained that many Illinois physicians outside of Chicago received very inferior treatment, as illustrated by a certain class of Chicago physicians holding pink tickets which admitted them to preferred locations, while out of town physicians were supplied with white tickets, which confined them to the balcony.

Dr. S. M. Miller of Peoria presented a very interesting paper on "Fracture of the Lower End of the Radius."

Dr. C. E. Howard gave an equally important paper on "Goiter and X-ray Treatment."

After free discussion of both papers the meeting adjourned.

Fifteen members and one visitor were present.

D. S. RAY, Secretary.

MADISON COUNTY

Our June Meeting

The Madison County Medical Society met at the home and school of Dr. W. H. C. Smith, at Godfrey, on June 7, 1918, with President Dr. J. H. Siegel in the chair.

Twenty-four members and thirty-seven visitors were present.

By a vote it was ordered to hold our July meeting in Highland and our August meeting at the Alton State Hospital.

Miss E. A. Mitchell, community nurse, made a report of her work from May 24, 1918, to June 4, 1918, which was adopted and placed on file.

Dr. E. A. Cook, of Alton, introduced the following resolution which was unanimously adopted:

WHEREAS, About one-fifth of the members of the Madison County Medical Society are now serving our government in the war and more are soon to enter service, and

WHEREAS, The said society has not agreed on any plan to care for the interests of these members in any way whatsoever, therefore be it

Resolved, That the president with five appointed members constitute a committee to be known as the Madison County Medical Society's War Committee, who shall act on all matters that might be for the present or future financial benefit, comfort or happiness of the members who serve in the war, and their immediate families, and that said committee tender its council and relief if need be, to the wives of said members. And be it further

Resolved, That the committee be empowered to expend reasonable sums of money where in their judgment occasion demands; recommend the levying of assessments, and report its activities and its recommendations at each meeting of the society for the duration of the war and until discharged by this body.

Committee appointed under above resolution: Drs. E. A. Cook, chairman; E. C. Ferguson, J. W. Scott, E. G. Merwin, R. C. Berry and J. H. Siegel.

Dr. John H. Siegel delivered the president's annual address, which was well received. He called attention to the fact that 18 of our members were in military service with quite a number of others examined and waiting for commissions and their orders to report. He asked for closer examination by the doctors of the registrants because many of these were sent to camps with glaring defects. He also advocated vaccination of school children and recommended that a copy of the defect slip given to a defective child be sent to the health authorities. Major W. H. Luedde of St. Louis was introduced and made an address on "Enlistments." He said that our government was very much in need of more doctors. He also mentioned the plan of volunteer doctors, a group made up of those who for various reasons could not give their services to the government.

Dr. Malcolm Bliss, of St. Louis, an examiner of the recruits at the several camps and cantonments, gave quite a vivid description of his work along the lines of nervous and mental conditions. He said that one-fifth of all rejections at camp were caused by neurasthenic conditions.

Dr. Walter Baumgarten, of St. Louis, read an extremely interesting paper on "Pneumonia." He contended that the cause of this disease was never from within but was caused by contact with a previously existing focus. He described the various types of pneumococci and the degree of violence ascribed to

each type. By vote of the society, this paper will be published in the ILLINOIS MEDICAL JOURNAL.

Dr. W. H. C. Smith described conditions as he saw them at the detention camp at Jefferson Barracks. At the time of his visits this camp contained more than 500 cases of venereal disease and all of the afflicted are sent to these camps and kept there until cured.

Dr. O. L. Frech, of White Hall, spoke in behalf of the visiting members from Greene county, expressing thanks for the invitation to attend this meeting.

A hearty vote of thanks was tendered to all four speakers. After a vote of thanks to Dr. and Mrs. Smith for their hospitality and entertainment, the meeting adjourned to meet in Highland on the first Friday in July.

Report of Community Nurse, May 4 to June 4, 1918

During the month, May 4 to June 4, seven schools were visited—a total of 1,394 children examined. This was, at best, a hurried examination, much being left undone that will have to be finished at a later date.

The general condition of health was fairly good.

The most amazing thing found was the absolute indifference of our people of education to the necessity of vaccination for the prevention of smallpox. Outside of Maryville and Collinsville, where vaccination was compulsory, only 42 children out of 300 had been vaccinated. A bare 10 per cent of our children receiving the care that is theirs by right. Of the 1,394 children examined 447 had enlarged and inflamed tonsils at time of examination, many others gave history of sore throats during winter.

Many of the mentally dull children gave every evidence of adenoids. One teacher told of a child who had been her most backward pupil in the fall, but having had both her adenoids and tonsils removed during the Christmas vacation, was now one of her brightest and healthiest boys.

Another thing that I wish to bring before you is this: The general lack of care of the teeth. This is found in the city as well as rural schools, upper as well as lower grades in the schools. If we had medical inspection in our schools, it would be a big stride along the road toward blotting out tuberculosis. Is it not worth thinking about?

There were 435 cases of very bad teeth. This is without counting those with one decaying tooth or with crooked teeth. There were several cases where children of 10 years had from 7 to 10 of the permanent teeth in various stages of decay. Those having good teeth, in many cases were not caring for them. Permit me to say right here, that there is a golden opportunity open to the doctors right now. As you have molded public opinion in the past, as regarding the employment of trained nurses, you can today do much toward making people realize that we need medical and dental

inspection in our schools as well as the school nurse.

Following the school inspection, is the home visit. We are welcome in most homes often times. In this manner we get hold of cases that would never be reached any other way. Oftentimes a mother will say that she knew the child's condition but thought it would be outgrown. Not realizing that each day lost was making complete recovery more doubtful. This is our aim—to make our little mothers realize the great need of immediate attention for what often seems minor ills.

Then, outside of the school work, we have one case, which is pitiable—a mother, tubercular, a boy with Bright's disease, a girl of 13 undernourished and anaemic looking. A father of 69 who does odd jobs here and there. These four people live, eat and sleep in a single room, 14x14. Everything about the place is as unsanitary as it is possible to imagine things. It is impossible to move the mother to the County Home, as there are no accommodations for tubercular patients. She can not be placed in a private sanitarium as she is a chronic case and a county charge.

Another startling fact which came to our notice lately is the case of one of our teachers, who dying of tuberculosis taught up to four months of her death. In the school room with her were between 30 to 40 children 6 to 8 years of age. We can not but feel that some of those children have been infected.

Tuberculosis Sanitarium

On June 10, 1918, a petition signed by more than on hundred legal voters of the county was presented to the Board of Supervisors, asking that an annual tax may be levied for the establishment and maintenance of a county tuberculosis sanitarium, and branches, dispensaries and other auxiliary institutions connected with same, in the county of Madison and State of Illinois, in accordance with an act entitled "An Act to authorize county authorities to establish and maintain a county tuberculosis sanitarium and branches, dispensaries and other auxiliary institutions connected with the same, and to levy and collect a tax to pay the cost of establishment and maintenance." Approved June 26, 1915, and in force July 1, 1915:

Ordered, that the county clerk of Madison county be, and he is hereby instructed to give notice that at the next regular election to be held in such county on the 5th day of November, every elector may vote "For the levy of a tax for a county tuberculosis sanitarium," and it is further

Ordered, that the county clerk of Madison county be and he is hereby instructed to take the proper legal steps to have the said proposition placed upon the ballot for the said next regular general election, to be held on the 5th of November in the county of Madison and State of Illinois.

The following report by Dr. Fiegenbaum was made at the June meeting:

New State President

Your secretary was inducted into the office of State President at the annual meeting of the State Society at Springfield, and hereby returns his thanks for the high honor conferred.

To be the chief executive of medical organization in this state, carries with it a great degree of responsibility, and the present incumbent would not dare to assume this burden, if he was not confident that he would have the assistance and counsel of the associate officers and members.

A great deal of constructive work lies before us; a great deal of activity in which we are all vitally interested, will develop in the near future and it behooves all of us to stand by and help, each in his own way, so that the high standard of the profession in this state may not be lowered.

To this end the state president pledges his every effort. All of his resources, all of his energies will be devoted to the interests of our society and to the advancement of organized medicine. And when all is said and done, he is still the secretary of the Madison County Medical Society and proposes to remain as such until the end of his term—and then—.

FROM OUR DISTRICT COUNCILOR

"Somewhere in France."

"I wish it were within the power of my words and within the limitations of our orders relative to the sending of communications, to describe to you the impressions received, the sights seen, the emotions felt and the lessons learned in, and from this war. And if to me, who am no more than on the edge of the seething whirlpool, what must it be and mean to one who has been thrown hither and yon for years in the vortex. It is all too vast for words, it is not a war as we of middle years have learned to know the world; there is no romance, no chivalry as we have mentally painted those terms. There is chivalry though such as modern civilization did not know existed, a chivalry which does not blazon its path with banners, nor herald its coming with trumpets; a chivalry which does not depend upon gentle blood, high lineage, or commissioned rank. It is an almost universal chivalry, a quiet determined, intelligent walking into the face of, —of what? Of death in an unknown form for the sake of an ideal. Men have lived in the past, and men will live in the future who will brave, with calmness, death at the cannon's mouth; they have become accustomed to cannons, and such death has no terror for them. More than this, if a man knows the nature of his enemy, he will unconsciously prepare his mind so that he will meet that enemy with a considerable degree of tranquility.

"Today the men go forth knowing that there are many deadly enemies, many dangers and deaths instead of but one. It is not a question of cannon, but is 'what particular kind of violence will try to rob me

of my life?' Will it be shrapnel? Will it be small high explosive that will merely smash a piece of metal into, or through him? Will it be monster high explosive whose blast may wipe him so out of existence that no fragment will ever be seen again? Will the death agent come in the insidious, lurking gas, and if by gas which one of the various ones? Will he drop, blotted from the earth, with his first or second breath, or will it be a kind that will leave him strangled, suffocating for hours before death relieves his agony? Will the great unknown come to him from the level of the earth or by a bolt from the heavenly blue? Will the substantial hilltop on which he stands suddenly split in twain, vomit its bowels into the air, and settling back, bury him alive under many feet of soil? Will he become entangled and impaled among the barbed wire and remain a helpless target until some friendly bullet brings relief? Does this seem overdrawn to you? If it does let me say that the human mind cannot overdraw the awfulness of this conflict, and that these words are merely a bald recital of a few of the conditions.

"More than this, (and what has been said is said to emphasize what follows)—I want to say that the boys and men who face these conditions calmly and bravely from day to day, boys and men who come from the farm and from the city, from homes of luxury and from the slums, who are intelligent and thoughtful, who know what stands before them, there boys and men are showing the world as high a degree of valor, and as pure chivalry as has ever been sung by bard, painted by an artist, or penned by a poet. There is an underlying something in these men that is greater than bravery or valor. There is no mawkish sentiment about it; everyone seems engaged in attending merely to the business of the day. In fact, the whole stupendous thing is a business, and without words or music, almost without command, each one seems going quietly about on the business of, 'As He died to make men holy let us die to make men free.'"

CHARLES D. CENTER, Col., U. S. N.
From *The Madison County Doctor*.

PIKE COUNTY

The Pike County Medical Society met in Rockford, July 25, and a very large number of physicians were present. The president of the society, living here, and his wife also being a physician, they had a dinner prepared that looked good to all the hungry ones who had journeyed near and far to be present. There is a suspicion that the chicken crop of South Pike is not as great as it was.

Dr. W. W. Kuntz of Baylis presented a case of Anterior Poliomyelitis which was quite unusual. He gave a careful history of the case and showed that there was now no paralysis and that no untoward sequelae has resulted. The case was discussed fully and much interest was elicited.

Dr. H. C. Blankmeyer of Springfield then read two papers; one on "Acidosis in the Non-diabetic" and the

other on "Infant Feeding." They both received much interest in the lively discussion which ensued.

Dr. H. P. Bierne of Quincy then made an address which, as councilor of the Sixth district, was replete with points and information that is designed for the upbuilding of organized medicine. He starts out on his councilorship with energy and earnestness that cannot but help the county societies in his district.

Dr. Emma Gay was on the program for a paper on "Tuberculosis," but was unavoidably absent on account of an obstetric case.

Dr. Rice of Quincy then invited the Pike County Society to join with the Adams County, Ill., Marion County, Mo., and Pike County, Mo., societies in a big meeting at the Sui Ecarté club, near East Hannibal, Ill., some time in September. This was gladly accepted and the secretary was appointed a committee of one to cooperate in furthering this plan.

Communications were read from Dr. Franklin Martin relative to increasing the number of nurses for the army and the call for more surgeons for the army, as well as the Volunteer Service Corps. The secretary made an appeal for still more volunteers, which will be responded to.

Society then adjourned.

W. E. SHASTID, M. D., Secretary.

RANDOLPH COUNTY

Randolph County Medical Society met in Adam Park, Coulterville, July 25, 1918.

Fifteen members were present.

Dr. Max Aszman of Chester was elected a member. Dr. Templeton, secretary of Perry County Medical Society, was present, accompanied by his daughter. Most of the members brought one or more members of their families, with a full basket of food, and a very appetizing and delicious dinner was served on an improvised table under the trees.

After dinner the business meeting, relative to securing members for Medical Reserve Corps of Army was held. Dr. MacKenzie gave a four-minute war talk, and talks on the same subject were given by Le Saulnier, C. G. Smith, Templeton, Beare, T. Robertson, J. W. Wier, James, Hendrickson, Stevenson, J. W. Robertson and Fritze.

A copy of a letter on establishment of a tuberculosis sanitarium in Randolph county was read and the secretary was ordered to mail one to every physician in the county. A report from the County Auxiliary Medical Defense Committee, composed of Thos. Robertson, chairman, Stevenson, Hoffman, Stanley, J. W. Wier and L. J. Smith, was had, which declared that all physicians in Randolph County between ages 21 and 55, whether in active practice or not, should be classified for military duty, and that the secretary should send names of all of these to the National Council of Defense.

On motion of Stevenson, seconded by J. W. Robertson, chair appointed Stevenson, chairman, and Beare and C. G. Smith members of a committee to see that

practices of members going to war should be returned to them when they return to their homes.

On motion, thanks were extended to Mr. Adams for his generous donation of his park and to doctors of Coulterville and to the ladies for their help in entertainment of members. Papers on subjects of their own choosing were volunteered by C. G. Smith, Thos. Robertson, Stevenson and Hendrickson, to be read at next meeting in Sparta. After deciding on Sparta as next meeting place, meeting adjourned.

ALBERT E. FRITZE, President,
• LOUIS J. SMITH, Secretary.

Personals

Dr. Wm. H. Conser, Cambridge, has been commissioned first lieutenant, M. R. C.

Major Frederick A. Besley has been promoted to a lieutenant colonelcy.

Dr. Van Buren Maurican, formerly of Rockford, has been commissioned first lieutenant M. C.

Dr. C. F. Horner, Tiskilwa, has been commissioned captain, M. R. C.

Dr. James A. Howell, of Elgin, has been commissioned captain, M. R. C.

Drs. Arthur Peraman and Homer Moore, Rockford, have been commissioned captain, M. R. C.

Dr. A. J. Weirick, Marseilles, has been commissioned first lieutenant, M. R. C.

Dr. Albert H. Wales, Lanark, has been commissioned captain, M. R. C.

Dr. Laurens Enos has been commissioned first lieutenant, M. R. C.

Dr. Charles B. Caldwell, of the staff of the Peoria State Hospital, has been commissioned captain, M. R. C.

Dr. John A. Kappelman, one of the health officers of Illinois, has been commissioned captain M. R. C.

First Lieutenant H. S. Bennett, Rock Island, after completing training at Fort Riley, was on furlough, awaiting orders.

Capt. Walter G. Bain, M. R. C., was ordered to report to the Rockefeller Institute, New York, for training in bacteriology.

Drs. Fred J. Eberspacher, Walter Burgess and Roscoe C. Danforth, of Pana, have been commissioned captain, M. R. C.

Dr. William M. Hanna, Aurora, has been elected medical director of the G. A. R., department of Illinois.

Dr. Frances E. Haines, Chicago, who went to France with the Dean Lewis hospital unit, is said to be the first woman physician to go abroad with the American forces.

Dr. Joseph W. Edwards, Mendota, a graduate of Rush in 1854, was the recipient of an ovation by numerous friends on the occasion of his 86th birthday. He is well and still in practice.

Dr. Wilbur E. Post has left Chicago as a member of the mission to Persia, which is headed by President Harry Pratt Judson of the University of Chicago.

Dr. Albert I. Bouffleur, Chicago, chief surgeon of the Chicago, Milwaukee and St. Paul system, was seriously injured by the overturning of his automobile near Orick, Cal., July 3.

Dr. W. H. Gilmore, of Mt. Vernon, secretary of the Illinois State Medical Society, has been called to the colors and reported at Fort Oglethorpe June 7.

Dr. Heber Robarts, Belleville, suffered the amputation of the index finger of the left hand, July 12, because of an infection following the handling of radium.

Dr. John C. Foley, health commissioner of Waukegan, was entertained at a banquet by the Lake County Medical Society, July 8, before his departure for Fort Sill, on duty as captain in the medical corps.

Major Albert E. Halstead, Chicago, M. R. C., U. S. Army, has been promoted to the rank of lieutenant colonel, National Army, and has been placed in command of Base Hospital No. 53, France.

William B. Graves of East St. Louis was found guilty by a jury in St. Clair county for treating human ailments without a state license. The complaint was filed by the department of registration and education.

Dr. Frank P. Norbury, Jacksonville, has been called to New York to serve for six months as acting medical director of the national committee for mental hygiene in war work, in cooperation with the office of the Surgeon-General.

Dr. James M. Hancock, Chicago, who accidentally suffered the loss of an eye in a pistol duel

between the police and a number of bandits, in February last, has made a plea before the council finance committee for \$25,000 damages.

Captain William D. Napheys, M. R. C., has embarked for over-seas duty, as neurologist and psychiatrist. Before embarking, Captain Napheys and Mrs. A. M. Finch, of Chicago, were married in New York City.

Dr. George D. J. Griffin was called into active service June 22, 1918. He was given a commission of first lieutenant and sent to Dr. Mayo's clinic in Rochester, Minn. Dr. E. Walsh Lyons is in charge of his practice.

Dr. George F. Butler has resigned as Medical Director of Mudlavia, and accepted a position as Medical Director of the North Shore Health Resort at Winnetka, Ill. He will begin his active duties there September 1st.

Dr. L. M. Bowes of 6031 West Circle avenue, Chicago, has received a commission as captain in the United States Medical Corps, and is now located at Camp McClellan, Alabama. A few of his many friends presented him with a gold watch the evening before he left for duty, and his surprise was so complete that he could only stutter his thanks.

Dr. O. W. McMichael, medical director of the Edward Sanatorium and chief of the tuberculosis department of the Chicago Polyclinic, was the guest of honor at a dinner given by his associates and friends at the Auditorium Hotel, June 29, on the occasion of his removal to take charge of the Winyah Sanatorium at Asheville, N. C. Dr. Robert H. Hayes has taken over Dr. McMichael's practice.

The following Chicago physicians have recently been commissioned in the Medical Reserve Corps:

Captains—Paul M. Oliver, John J. Meany, George W. Mosher, William A. Plice, Wm. H. Rubovits, Thos. J. Williams, Dwight C. Phillips, John E. Stanton, Richard A. Roach, Samuel A. Springwater, Mark T. Goldstein, Harry O. Miller, Walter R. Watterson, Gilbert Fitz-Patrick, John L. Manning and Frank M. Wood.

First Lieutenants—Ray M. Fouts, Jay G. Jones, Henry F. Way, Paul D. Lyons, Joseph T. Myer, John Shutack, Otto Hollinger, Ezra Hurwitz, Abe M. Scheier, Robert L. Borchert, Thomas

V. Dahmanlt, Arley G. Everhart, Henry Hofmann, Frederick C. Dolzmann, Leo V. Malone, Leo J. Jacobson, Clarence J. McMullin, Elmer W. Mosley, Anthony Summers, Longin Tabenski, Wm. T. Welsh, Joseph P. Saleski, Thos. W. Hagerty, Clarence H. Wieneke, Oscar W. Rest and Joseph F. Martin.

News Notes

—Dr. Frank P. Norbury, Springfield, is entitled to fly a service flag of nine stars for the Norbury Sanatorium at Jacksonville.

—Dr. B. F. Uran, Kankakee, had a narrow escape when his automobile was struck by an engine on the N. Y. Central track, July 6.

—Sangamon county is said to be the first county in the state to secure a complete registration of physicians for war service.

—The new hospital at Highland Park, erected at a cost of \$100,000, was dedicated with formal ceremonies, July 12. The mayor of Highland Park acted as chairman of the meeting.

—It is reported that the Provident Hospital of Chicago, which is a hospital for colored persons, has obtained a charter for a postgraduate medical school for negro physicians.

—Dr. Arthur L. Blunt will have to serve five years in Leavenworth prison for selling drugs in violation of the Harrison act, but escapes the fine of \$12,000, on the finding of the U. S. Court of Appeals.

—The Modern Hospital Publishing Company has removed its executive, advertising and subscription departments to 58 E. Washington street, Chicago. The editorial and business offices remain in St. Louis.

—The Elizabeth McCormick Memorial Fund has removed to 6 N. Michigan avenue. The work of the child welfare department of the woman's committee, Council of National Defense, Illinois Division, will be conducted from this office.

—Stephenson County Medical Society is said to have held a stormy meeting on the question of selecting men to fill the quota for army service. A proposition to leave the selection to a committee of two physicians and three laymen was voted down by a large majority. Later, when all but

nine members had left the meeting, the proposition was carried by a vote of five to four.

—Dr. Grant L. Taylor, Bluford, supervisor of military zones in Illinois, conferred with Dr. Samuel S. Winner, Chicago, and local health authorities to bring East St. Louis up to military requirements. After a careful examination several of the cards placed on immoral houses where venereal diseases were suspected were removed and only six such placards remain.

—The women's committee has granted to the Social Hygiene Committee of the State Council of Defense \$100 a month for six months to employ a competent woman physician for clinics three times a week in connection with the Red League Dispensary. Dr. Pearl M. Stetler, Chicago, has been secured and clinics will be held Wednesdays and Saturdays from 11 to 1, and Fridays from 6:30 to 8:30.

—At the last meeting of the House of Delegates at Springfield, a resolution was passed calling upon the president to name a committee to be known as the "War Committee of the Illinois State Medical Society" to act in conjunction with the National War Committee. President Fiegenbaum has named the committee as follows:

W. F. Grinstead, Cairo, chairman.
J. W. Pettit, Ottawa.
E. B. Coolley, Danville.
Ludwig Hektoen, Chicago.
Charles J. Whalen, Chicago.

Marriages

PAUL VINCENT JOYCE to Miss Edna Callahan, both of Chicago, July 16.

ANNY MAREA PETERSEN to Mr. P. O. Saunders, both of Chicago, recently.

ISRAEL SILERRY to Miss Dora Josephine Lichtenstadt, both of Chicago, June 26.

GEORGE KARL FENN, Chicago, to Miss Vera Eleanor Wallace of Chicago Heights, Ill., recently.

LIEUT. GEORGE HOWARD WILSON, M. R. C., U. S. Army, to Miss Gladys Lorene Harvey, both of Mount Carmel, Ill., June 24.

CAPT. JEROME FRANK STRAUSS, M. R. C., U. S. Army, Chicago, on duty at Camp Logan, Texas, to Miss Lois Mary David of Chicago, June 7.

Deaths

WELLS ANDREWS, Chicago; Rush Medical College, 1876; aged 64; died in Garfield Park Hospital, Chicago, July 2, from cerebral hemorrhage.

JAMES R. HOLGATE, Wyoming, Ill.; Rush Medical College, 1869; aged 77; at one time a member of the Illinois State Medical Society; died in a sanatorium in Kansas City, June 16, from pneumonia.

LOUIS S. TUCHOLKA, Chicago; Hering Medical College, Chicago, 1901; aged 43; who was awaiting trial for manslaughter on account of an alleged illegal operation; died in the hospital of Cook County Jail, June 28.

WILLIAM ABBOTT NASON, Algonquin, Ill.; Northwestern University Medical School, 1866; aged 77; a Fellow of the American Medical Association and Fox River Valley Medical Association; died at his home, June 10, from senile debility.

CLAUDIUS DE WITT BELL, Chicago; Jenner Medical College, Chicago, 1907; aged 43; a Fellow of the American Medical Association; for ten years radiographer to Provident Hospital, Chicago; died in that institution, July 9, from lobar pneumonia.

WILLIAM T. MAFFIT, Chicago; Jenner Medical College, Chicago, 1903; aged 52; a member of the Illinois State Medical Society, and a member of the staff of St. Mary of Nazareth Hospital; died at his home, June 22, from pneumonia.

HENRY ABBOTT WINTER, Saybrook, Ill.; Rush Medical College, 1873; aged 74; a Fellow of the American Medical Association; a veteran of the Civil War, and a practitioner for fifty-two years; died at his home, May 21.

JOHN T. MILNAMOW, Chicago; Northwestern University Medical School, 1882; aged 63; a Fellow of the American Medical Association; attending physician at St. Anne's Sanitarium and Hospital, Chicago, and president of the attending staff; died at his home, April 22, from anemia.

MARIE LOUISE WHITE, Chicago; Northwestern University Woman's Medical School, Chicago, 1892; aged 48; a Fellow of the American Medical Association; an instructor in the Post-Graduate Medical School of Chicago, and one of the most prominent women physicians of the city; died at her home, July 6, from heart disease.

MAJOR GEORGE ENGLEMAN HILGARD, M. R. C. U. S. Army, Belleville, Ill.; Washington University, St. Louis, 1897; aged 41; a Fellow of the American Medical Association; formerly captain and assistant surgeon, Illinois National Guard, assigned Fourth Infantry; a veteran of the Spanish-American war; who was sent to France in the latter part of last year, and was on duty in the front lines, and as the result of a breakdown from overwork, was sent to a hospital in Paris; died there, June 25.

ILLINOIS MEDICAL JOURNAL

THE OFFICIAL ORGAN OF
THE ILLINOIS STATE MEDICAL SOCIETY

VOL. XXXIV

CHICAGO, ILL., SEPTEMBER, 1918

No. 3

Original Articles

THE PRACTICE OF PREVENTIVE MEDICINE.*

WILLIAM S. SADLER, M. D.

Professor of Physiologic Therapeutics, The Post Graduate
Medical School of Chicago; Director, The Chicago
Therapeutic Institute.

CHICAGO

For more than two decades, as a profession, we have been preaching the benefits of preventive medicine. That both our patients and the general public have greatly benefited by our hygienic teaching and our scientific efforts to prevent disease and promote health, no one will question. Notwithstanding the good we have accomplished along these lines, it seems to me that we have not always followed up our educational efforts in a practical and logical manner; that we have not done our full duty in helping the layman to preserve his health and to postpone his own funeral.

Popular Health Instruction. I am keenly appreciative of the great advancement made during the past ten years in providing improved hygienic instruction for the laity. I refer to the increased efforts along the lines of enlarging and improving the popular health literature. Today, reputable physicians contribute to the popular magazines and even to the columns of the daily newspapers; not to mention public health lectures; the increasing activity and efficiency of public health boards; the anti-tuberculosis organizations; infant welfare societies, etc.; but all these activities, it must be admitted, are not, technically speaking, the *practice* of preventive medicine as regards the average individual in the community; as far as he is concerned, these worthy efforts rather represent the *preaching* of preventive medicine.

It is the purpose of this paper to call attention to a long neglected phase of the modern

health movement, a field which I believe might appropriately be termed the "practice of preventive medicine." I refer to the systematic and well organized efforts periodically to examine apparently well persons, and otherwise to supervise the health and physical well-being of the families embraced in our clientele; to still further extend our health instruction designed for the general public along such lines as will emphasize to the layman the necessity and importance of the continuous and thoroughgoing health supervision of every individual in the community from the time they reach the high school graduating age; it being assumed that the school age period will be covered by the joint watchfulness of parents, the family physician and the public school nurse.

And since this paper deals not so much with the theory, but rather with the practice, of preventive medicine, it will be evident that our purpose can best be served by a presentation of actual accomplishments in this direction rather than take up your time with the presentation of untried methods and unproved proposals. This paper will, therefore, be quite largely devoted to a description of our efforts and a relation of our experiences covering a period of ten years, and dealing with our endeavors to practice preventive medicine, to organize and put into operation a system of periodic health examinations for supposedly well people.

I should add, by way of further explanation, that the facilities and organization developed and built up for the accomplishment of this work, were primarily created for accommodation of our regular medical work, and not for the special purpose of carrying on the examination of well people. Lack of interest in the practice of "preventive medicine," both on the part of the profession and the public, would have made it financially impossible to have maintained an organization with such a large annual overhead, devoted exclusively to the examination of well people; for,

*Read at the sixty-eighth annual meeting of the Illinois State Medical Society, at Springfield, May 22, 1918.

even after ten years of persistent effort, the volume of business embraced in the department of so-called "Health Audits" only represents about 25 per cent of the total number of examinations made.

Periodic Health Supervision. The awakening on the part of the public has only come in the last four or five years. The layman is learning to go to the dentist once a year, and the time is now ripe for teaching him how to get in touch with his physician at least once a year. I have been shocked by the general indifference of the profession to the importance of this work. Many well persons come to us to undergo the health audit and describe how they have patiently gone to from three to six physicians successively, and how they have failed to interest these doctors in their case, simply because they presented no definite ailment—no precise complaint.

I regard it as exceedingly unfortunate that the supposedly well layman should get out of touch with the family medical adviser in his efforts to preserve health and prevent disease. In other words, while I recognize the place and function of special organizations for carrying on elaborate researches and thoroughgoing examinations, I believe that it would be a better plan to have the annual check-up examinations and the follow-up system carried out by a private practitioner, preferably the family physician.

A health audit—as we here employ the term—may be defined as a regular, systematic and searching medical examination of an apparently perfectly well and healthy man or woman. As a rule people go to see a doctor only when they are sick or suffering. Years ago, people patronized the dentist when they had the toothache; now, you go to the dentist regularly—periodically. Now-a-days some folks are learning that it pays to call on the doctor at least once a year, to have their vital machinery inspected and overhauled—and not wait for some painful manifestation to put in its appearance before calling in medical assistance. For years we have been preaching that "prevention is better than cure," and now the "Health Audit" idea is a serious attempt actually to put this good advice into practice.

The one prominent characteristic of our present-day social and commercial life is its high tension. In this twentieth century most people

are living under high pressure and traveling through life at a fierce pace. The pressure gauge of modern life registers all the while dangerously near the bursting point, and the unfortunate thing about it all is that the very diseases which are engendered by this high-pressure living are largely *symptomless*; that is, they frequently present no serious symptoms and occasion no personal suffering, until the patient is actually on the brink of the grave. Very often the first knowledge one has of serious organic defects is when they are turned down for life insurance; then they are rudely awakened to the fact that they may have but a few months or years to live; that they are already unconscious victims—in an advanced stage—of one or other of the so-called "old age" or degenerative diseases.

The Appalling Neglect of Health. No automobilist would dare to drive his machine forward heedlessly and carelessly with no thought of periodic inspection and without proper oiling and care at regular intervals, unless his journey were one actually of life and death; and yet how often do we observe intelligent men and women urging their body-machines forward heedlessly and carelessly under the lash of greed and ambition, utterly disregarding disease possibilities and utterly blind to the danger signals of disease which are to loom up so soon in the pathway of life just ahead.

The higher the speed, the more intensely you drive the human machine, the more the necessity that the bodily mechanism should be regularly inspected. Many a man thinks nothing of spending from twenty-five to one hundred dollars, periodically, for having his automobile overhauled and kept in first-class running order. At the same time, he is not willing to invest even half that amount in the all-important business of periodically inspecting and annually overhauling his own physical body—his nervous, digestive, circulatory and eliminative mechanisms.

In this country every year hundreds of thousands of dollars are spent to determine how book-keepers, cashiers, and other confidential agents are doing their work, while next to nothing is spent by these very painstaking individuals—captains of industry and merchant princes—to find out how their own personal vital organs—lungs, liver, kidneys, heart, and blood vessels—are doing their vital work. You can discharge an incompetent

accountant, fire a dishonest bookkeeper and get reliable workers in their places when you discover their discrepancies, but it is not so with one's vital organs; when they go wrong it is often too late to secure very much help. We have but one set of vital machinery to run us a lifetime, and when, through neglect, it "goes stale," we have to make out with what we have left when we discover our mistake.

What do the intelligent men and women today, who are neglecting to find out about the workings and behavior of their vital mechanisms, think of the engineer who never inspected his machinery until he got word of a breakdown? What do you think of the business man who never audited his books until informed that his cashier had left for Canada? What is the situation of a nation that never prepares for war until hostilities break out; and what estimate can we put upon the intelligence and forethought of men and women who never have their body-machines inspected until a physical breakdown or a nervous blow-up hurries them into the hands of a doctor or off to a sanitarium?

Some day a coroner's inquest will be held when anybody dies under fifty years of age.

How The Health Audit Is Practiced. When a man or woman reaches the age of twenty-five or thirty years, they should submit themselves to a searching health audit, having this complete research repeated about every five years from that time on; while annually they should have this examination checked up at points that may be indicated, together with such simple tests as blood examination, urinalysis, and blood-pressure. In cases where blood-pressure or urine is off-color, it might be well to check them up every three or six months until they show improvement.

It should be remembered that Bright's disease, apoplexy, heart failure, nervous prostration, diabetes, and many other physical and nervous disorders which contribute so enormously to the modern death rate and which so appallingly cripple the efficiency of the civilized races—I say, it should be remembered that these disorders usually cast their warning shadows a long way ahead of the actual cataclysm. While these diseases are largely *symptomless* as far as the patient's ability to detect them goes; nevertheless to the physician, they hang out red lanterns of

warning which would never be overlooked by this plan of systematic and periodic physical audits or annual health examinations.

In our larger cities organizations are being built up, with each department in the hands of a specialist, to carry on this work of the health audit, and, no doubt, at some time in the near future, the business man who desires a heavy line of personal credit at some financial institution will be compelled to submit, along with his other statements, a physical auditor's report dealing with his vital assets.

The facts discovered by a modern health audit enable you to know where you are weak and where you are strong; where it is safe for you to drive hard and push forward, and where it is wiser to put on the brakes and go more slowly; while at the same time the way is pointed out for you while it is yet possible to remedy conditions—to strengthen your weak points and build up your defenses where danger threatens.

In this connection I want to say a word concerning the criticism which has come from some quarters regarding the harmfulness of supposedly well people periodically visiting a physician or medical institution for the purpose of being examined. I am not wholly blind to the danger of introspection on the part of certain nervous individuals, and I am also cognizant of the fact that every now and then some neurasthenic individual is not particularly helped by going through such a thoroughgoing examination. At the same time, I have further observed that these are the same individuals who, sooner or later, succeed in making themselves sick by reading health books or health articles in the magazines, or by following the health column of some daily newspaper. They are hereditarily and neurologically unstable. They are potentially neurasthenic and hardly belong in the category of well people. I do not recall in my experiences a single case of periodic examination where even a passingly well person was rendered introspective as a result of the plan and methods herein described and advocated.

Amazing Disclosures. It is a sad commentary both on the intelligence of the public and upon the aggressiveness of the medical profession, to ascertain how many persons in a given community, thinking themselves perfectly well, are found on examination to be suffering from some minor deficiency or major disorder.

Our statistics developed by the examination of well persons are almost identical with those brought out by the numerous "health surveys" and by the recent examination of the employes of the New York Health Department; all of which findings agree almost exactly with the statistical reports of such organizations as the Life Extension Institute of New York City and the Chicago Bureau of Health Audits—institutions devoted exclusively to the examination of well people. All of these investigations taken together, show that supposedly well people in the average community, when examined, yield the following amazing results:

The examination of several thousand supposedly healthy individuals (average age 30 years) employed in banks, insurance offices, factories, mercantile establishments and other industrial concerns, discloses the amazing fact that only 4 per cent are normal; 36 per cent exhibited minor tendencies toward disease; 50 per cent showed from moderate to severe symptoms of approaching disease; while 10 per cent were found to be already suffering from some serious or advanced physical ailment.

Between 1914 and 1917 the examining surgeons at the various United States army recruiting offices rejected 77 per cent out of 205,281 applicants for the army. So it appears that just about three-fourths of all applicants were below physical standards; and, as the reader will recall, quite recently, since definitely entering the war, these standards have been greatly lowered; but even then, one-quarter of all the men examined have been rejected.

After going to the mobilization camps the men of our recent draft army were all re-examined and 30,000 more were rejected. One-fourth of these were found afflicted with bad eyesight; 8½ per cent had bad teeth; and still other troubles revealed by the second examination were hernia, ear troubles, heart disease, tuberculosis, mental deficiencies, venereal diseases and a lot of other common, but unsuspected, disorders; all of which had been overlooked by the local examiners.

But this is the important question which we as physicians will ask ourselves: If the men of this country between twenty-one and thirty-one years of age are in this bad condition, the women must be in an equally deplorable condition, or probably worse; and if these select individuals,

candidates for the army and the national defense, are thus afflicted, what must be the real condition of the average American man and woman of today? It is self-evident that this army examination data calls for the immediate institution of the annual examination habit on the part of the American people. I repeat: 'The layman must be educated to go to his doctor at least once a year.

"Symptomless Diseases." Practically all of the contagious or microbic diseases at the present time are on the decrease, and their death rates are gradually going down. Modern science is slowly gaining the victory over the microbe; but in the presence of this wonderful achievement, we stand face to face with defeat as regards the struggle with the degenerative or so-called old age diseases. There are two probable causes for the poor showing in this field. These diseases are in part being produced by personal habits of living—conditions which cannot be controlled by sanitary laws and quarantine regulations. Most of these degenerative diseases are largely *symptomless*.

This group of symptomless diseases embraces: Hardening of the arteries, with its resultant high blood pressure; cirrhosis of the liver; Bright's disease and kidney disorders; apoplexy, paralysis, etc.; heart failure; diabetes; cancer; tuberculosis; locomotor ataxia; and certain other nervous diseases which are also often more or less symptomless.

Disease statistics cannot always be taken at their face value; for instance, we can prove by statistics that the American people will all be crazy in less than three hundred years, but I don't believe it. This deception of statistics is due to the fact that we are more critical in our diagnoses and more discerning in our classification than we used to be. We call a lot of people crazy nowadays who used to be regarded as being merely "peculiar"; and so statistics sometimes look unduly threatening.

Nevertheless, after making all due allowance for more complete diagnostication, etc., we are forced to the conclusion that these old age disorders, or symptomless diseases, are greatly on the increase at the present time. During the past ten years there has been an alarming increase in the death rate of heart disease, arteriosclerosis, Bright's disease, diabetes, etc. During the past

twenty-five or thirty years the mortality rate from this group has nearly doubled. Of hundreds of thousands of American lives that are thus annually snuffed out, nearly one-half die before their time. While men above sixty or seventy may be said to succumb to these disorders normally, our statistics go to show that men and women under sixty years of age make up almost 50 per cent of these fatalities. And all of these diseases, it should be remembered, are more or less preventable—that is, death could have been postponed for many years in almost every case if the facts had been known in time and proper action had been taken.

Since the European war began, America has been deprived of about one million immigrants a year, and this is just about the annual number of our needless deaths. In round numbers, a million American lives are sacrificed every year, and this takes no account of the enormous waste—running into billions of dollars—which the nation sustains because of the lessened efficiency due to the preventable sickness of those millions of sufferers who survive. And all of this is brought about because these disorders are so largely symptomless that the only way their presence could have been detected would have been by the systematic methods of the annual medical examination. I fear we shall never see a material lessening of the death rate of these symptomless diseases until the American people form the habit of consulting the family physician once a year for the annual health inventory; for, of these million needless deaths each year, about one-half are from these preventable old age disorders. Over one hundred thousand die of these degenerative diseases before reaching sixty years of age. About seventy-five thousand die before they are fifty years old, and almost fifty thousand perish of “old age” ailments before they are forty years old.

Heart Disease and Kidney Disorders. Heart disorders are tremendously on the increase at the present time. “The three diseases most fatal in the United States, according to the Federal Census Bureau, are heart disease, tuberculosis and pneumonia. These three diseases cause nearly one-third of all deaths occurring in the country. At one time tuberculosis headed the list and pneumonia ranked low. Heart disease ranked fourth as a cause of death from 1900 to 1910. Within thirty years it rose from ninth

place to fourth place. Now it is in first place.” The deaths from heart disease in the registration area in 1916 numbered 114,171, or 199.4 per 100,000 population. The death rate from this cause shows a marked increase as compared with 1900, when it was only 123.1 per 100,000.

The kidneys, we know, seldom give us pain unless they are harboring a stone or tumor of some sort. On the other hand, one can be in almost the last stages of Bright's disease and never experience a pain or a pang from the kidney region. In fact, most pains in the small of the back have no connection with the kidneys; they are lumbago or nerves—or come from carrying around too much fat on the abdomen. Kidney disorders are early detected by urine examinations and blood-pressure findings, as illustrated by the following case:

Mr. W. W. G.—In apparent good health. Before assuming important business responsibilities was audited. Blood pressure high, with albumen in urine. By placing himself in the hands of his physician and adopting a careful regime, he was able to accomplish a practical cure within a year.

On the other hand, here is an illustrative case of a man, who was looked upon by his friends as being “the picture of health.” He took the health audit as a sort of joke.

Mr. C. P. K.—Business man, 43 years old. Feeling fine, but took the health audit to be sure. Blood pressure 180, casts and albumen in urine; advanced Bright's disease. Disregarded advice to quit work and take radical measures to improve his condition. Six months later had stroke of apoplexy and in two weeks died. Even in this grave case he “thought he was all right.” If he had been thoroughly audited when thirty or thirty-five years old and had followed this up with frequent checkings, taking the advice of his physician as to treatment, he might have lived to a good old age.

These are common experiences. Dozens of such cases can be cited by any practicing physician of large experience. The time has now come to put preventive medicine into practice and save thousands of these needless and premature losses every year.

The Machinery for Measuring Men. The organization of physicians and facilities for effectively carrying out the health audit idea which are to be found in this country fall in two groups:

First, those of the larger sanitariums and hospitals, scattered throughout the country; and

Second, those special medical organizations such as may be found in New York, Chicago

and other large centers, where men and methods have been assembled in practical working groups, for the specific purpose of putting into practice this "Modern Health Audit Idea."

You will perhaps get the best idea of such an organization by an actual description of the facilities of such an establishment. There are to be found, of course, the usual waiting room, administration offices, etc., such as might be found in any medical institution; and then there are a series of examination rooms, where the special examinations are made, and the clinical laboratories where the microscopical, chemical and other special technical work is carried on. There are complete x-ray laboratories for making all sorts of observations, and carrying through every sort of x-ray examination. Next come the dental department and laboratories where the dental surgeons make a careful examination of every tooth, the gums, take x-ray pictures of the roots of the teeth, etc.

Next you go into the psychological laboratory, where tests are made of the nervous system and where the mental action and the nervous behavior are observed. This represents one of the latest developments in methods of precision in reference to a thorough-going examination. Then there is the anthropological laboratory where the physical measurements are made, and where the strength tests are recorded.

Next comes the laboratory of special observations. The lung tests, collection of air for CO₂ determination, and a great variety of other observations, including blood pressure, etc. Then come the special departments for the examination of the eye, ear, nose and throat, and other special organs; not to mention the usual gynecologic, genito-urinary and physical examination departments.

It thus appears that the technical and mechanical organization of such an establishment employs all the equipment and facilities such as would be found in one of the larger medical establishments of the country; it is the bringing together in one organization of the facilities and equipment that would otherwise be accessible only by the great inconvenience of visiting, successively, a series of twelve or fifteen different examining specialists.

Medical Team-Work. The health audit idea presupposes team-work on the part of the mem-

bers of the examining staff. While each examiner or specialist in his department attacks the proposition just as if the difficulties to be discovered in that particular department represented the entirety of the problem; subsequently, there is a consultation with the other departments, regarding the actual diseases disclosed, and in the end the findings are all assembled in the office of the medical director, who is responsible for correlating and harmonizing the final interpretation of the findings of the various departments. In this way a patient is able to get a co-ordinated diagnosis, prognosis and opinion.

This sort of an examining staff demands presence of the internist, the surgeon, the gynecologist, the genito-urinary specialist, the eye, ear, nose and throat doctor, special laboratory workers, the roentgenologist, the psychologist, the dietician, the dental surgeon, and last, but not least, a medical director or the diagnostic chief of the entire examining staff.

Even in the smaller communities, county seat towns, etc., medical men could group themselves together for this diagnostic team-work. Especially is such a plan feasible in those towns which have a small hospital, which could serve as the nucleus for this new sort of clinic. At the same time, if these hospitals could be properly equipped for the administration of hydrotherapy and other physical methods of treatment, there would not be so much in the community left for the osteopath and the chiropractor. In brief, when the medical profession wakes up to the value of team-work in diagnosis and to the practice of psychotherapy in the neuroses, it may be that the man of medicine will begin to come back into his own. As it is now, the family medical adviser is rapidly coming to the place where he refers his surgery to the surgeon; his difficult diagnostic work to special establishments; his chronic cases to the osteopath or a sanitarium (or perhaps they go of their own accord if he does not send them); while in the case of nervous disorders he, as a rule, does not have the privilege of referring them, they more frequently take up New Thought or Christian Science on their own initiative.

I am strongly impressed with the necessity of providing in our future hospitals, not only proper facilities for physiologic therapeutics and other treatment outside of surgery; but also to plan for this hospital to become the diagnostic and re-

search center for the community. In a small community this plan can be worked out, I believe, in some practical way.

These small hospitals of the future should be the meeting places for the local medical societies and headquarters for the continuous post-graduate work of the local profession. There exists today an imperative necessity for the so-called regular profession getting together to promote team-work, and professional loyalty, or else we are doomed to still further harassment at the hands of the irregular practitioner and the divers cultists.

The accompanying exhibits show fully the scope and detail of our plan of research examinations; the nature of the reports rendered; variety of examinations offered and the thoroughness with which well people (as well as sick people) must be overhauled in order to gain possible clues of constitutional defects or threatened disorders of any sort.

Notwithstanding its inherent limitations, we have found the graphic method very helpful in the study of examination findings and it is employed throughout our scheme of examination reports as supplemental to the accompanying technical and formal written reports.

Of course, the fee charged for these examinations would ordinarily be placed on a definite basis; but our own personal practice has been to establish a minimum fee based on overhead and material costs and then to graduate the charges upward towards an established maximum charge, in accordance with the circumstances of the patient, somewhat after the same manner we would follow in settling an equitable fee for a proposed surgical operation.

DISCUSSION (ABSTRACT)

Dr. Hemenway (Evanston) was much impressed with the absolute necessity as well as the economic importance of such examinations. The estimate for the United States in 1914 was that the loss from malaria was \$178,000,000. He made a recent estimate for the state of Illinois on malaria, which was approximately \$4,500,000.

If the individual practitioners make routine microscopic examination of the blood, especially with the least possible suggestion on the part of the patient, the cases may be discovered, and in that way the disease may be prevented from spreading.

It is important on that account for the community that these examinations be made, and if the general practitioners do not take it up as a routine practice, it devolves upon the governmental

authorities to make these examinations and take charge practically of the treatment and the practitioners will be left out in the cold.

In many of the southern counties of the state the men do not show energy in the cultivation of their land. A few dollars spent on the examination and a little bit of treatment would enable them to get a great deal more out of their land and be a great deal more prosperous. It is therefore a matter of personal economy to have these examinations.

Doctor Sadler has spoken of arteriosclerosis.

Now, with the blood you have a retarding of the pressure in the capillaries. That retarding of the pressure reacts, and you get hypertrophy of the heart, increased heart action, not as a cause, but as a result, and with the retarding effect in the capillaries of viscosity and the increased heart pressure, you next get the hardening of the blood-vessels as a result and not as a cause of the disease. So you can detect the coming of arteriosclerosis before it actually occurs.

He also noted the lack of laboratory facilities in several of the southern counties of the state.

If the men are going to hold their business they have got to be prepared to make a thorough examination, and they must have their laboratories available in the various communities.

Dr. John Dill Robertson (Chicago): I thought no one questioned the correctness of the plans outlined by Dr. Sadler. We have heard this plan discussed for a good many years. But, in spite of that, the people are very slow to adopt it. It should be made a habit, and the way to begin the habit is in childhood. That leads back to school inspection and school examination. If every school child in every school-house in every city and in every hamlet had a health audit each year from the first year they enter school, and it was kept up until they left the grammar school, eight successive years, then the habit would be formed and they would be demanding a careful physical examination in the years to follow.

The Health Department of the City of Chicago started some time ago to make such audits of the school children of Chicago, though not so extensively nor so completely as has been outlined by Dr. Sadler, because the audit had to be made by one individual and he had to do it rapidly. In 1916 there were 191,000 school children examined physically. Of this number, 88,000 were found to be defective. A large percentage of these were teeth, a large number tonsils and adenoids.

Out of those 88,000 that year there were only 12,000 whose defects were corrected. The correction of these defects is the most difficult part in our school and inspection work. After we have discovered the condition, we must then get action on the part of the family—and the family physician. With the children in the schools of Chicago many of them were so poor they couldn't afford a physician. Surely, an ounce of prevention is worth a pound of cure, and surely

the quicker this audit is made on the child, the fewer defects there will be in mature age.

In reference to the control of contagious diseases, we have a long way to go in the control of tuberculosis and syphilis.

POSTPONING OLD AGE*

CHARLES J. WHALEN, M. A., M. D., LL. B.

CHICAGO

The postponement of old age is accomplished by the conservation of good health and the promotion of normal life. It is a dividend paid on an investment in conservation of the vital forces and organs; this dividend is increased by the elimination or amelioration of unfavorable environmental conditions. This includes questions of water supply, food, feeding, sewerage, climatology, clothing, heating, lighting, ventilation, scavenging, personal hygiene, work, over-work, sleep, rest, fatigue, exercise, play, sports, noise, crowding and over-crowding, avoiding offensive, unwholesome or dangerous trades.

In order to avoid disease and to forestall its effect, there are required: first, mechanisms as capable as possible of adjustment to external relations unfavorable as well as favorable; second, environment (external relations) to which the mechanism may adjust itself by making as small demand as possible upon its powers of adjustment. Of the two factors mentioned the former is far the less under our control. The mechanism may be strengthened by good air, rest and other favorable conditions. It may be weakened by bad air, fatigue and other unfavorable conditions.

In actual life all these various conditions are readily observed. We find some persons so robust, that is to say, with mechanism so capable of adjustment to external relations of whatever kind, that nothing seems to daunt them. They work hard, eat poor foods, live in bad air, and seemingly disobey all rules of hygienic living, and yet possess apparently perfect health. Conversely others, surrounded by every sanitary contrivance, well fed, well housed and tenderly cared for, sicken and die in an environment apparently the most favorable. In the same community are many who thrive as long as their external rela-

tions are good and easily dealt with, but who suffer just as soon as these become difficult to deal with. A good example of this is a change of external relations, such as a financial panic, loss of employment, increased exposure, poorer feeding, loss of sleep, etc. Perhaps the best example is one in which a novel and direct action proceeds from the environment, unknown it may be until its work is done.

Darwin refers in sorrow to those persons who have failed to understand him, because they were utterly unable to appreciate the cumulative effects of small changes acting over long periods of time. As physicians we must warn our patients not to neglect small and seemingly insignificant factors in the form of unfavorable conditions which, by prolonged action and cumulative effects, may produce grave results.

The period of life may be divided into youth, adult life and old age. Only very rarely does the mechanism last longer than a century; usually long before this it is stopped by death, which may have marked the end of life at birth or even before it; in infancy, in childhood, in maturity or in old age. The period of growth and the period of decline, infancy and old age, appear to be the periods when death is least successfully resisted. In this last respect the two extremes of life resemble one another, the freshly lighted taper and that which is burned down to the socket, are both easily extinguished.

Doubtless the principal cause of death should be old age, the natural maturity of the organism, the gradual and irreparable wearing out of the vital machinery; yet if we turn to any work on vital statistics, we find far more prominence given to other factors of mortality. In Chicago, for instance, we find deaths from disease causing 92 per cent, violence 7 per cent, and old age, which is classified along with ill-defined or unknown causes, and all comprising a total of 0.6 per cent, showing that disease constitutes 99 per cent of all the recognized causes of death. It is clear, therefore, that old age, which should be the natural cause of death, is comparatively rare. If disease is thus in reality as it is apparently the principal agent of death, it is obviously on the prevention of disease that we must concentrate our efforts in the future.

While it has been shown that disease is the principal agent of death, we must also bear in

*Read at the Sixty-eighth Annual Meeting of the Illinois State Medical Society, May 22, 1918.

mind that it is often facilitated in its work by age or enfeeblement which gives it a foothold and incapacitates the organism for resisting its activity.

Physicians recognize differences of condition in which the body seems to possess great powers of resistance or endurance or only small powers of desistance or endurance. In this way it often happens that a structural or constitutional condition, as for example a low degree of vitality, is generally believed to increase enormously the susceptibility to disease. A little reflection will show that death as a rule comes prematurely; old age the only theoretically normal and natural cause of death is very rarely the one and only cause. Poor timber or poor materials or poor construction of the living machinery alone, or together, make up a poor constitution or else violence, poison, parasites or other unfavorable elements in the environment, usually bring on disease and death long before the appointed three score years and ten. For the great majority death comes before old age. All this means that death is often premature and the principal function of the physician is the prevention of premature deaths.

That life, that narrow isthmus 'twixt two boundless oceans, the past, and the future, should be held together more tenaciously than is being done at present is illustrated by the following:

Between three and four hundred thousand people in the United States in 1917 died of the so-called degenerative diseases—the incontrovertible evidence staring us in the face that half of these would not die if the average health, from middle age upward, was as good as it was thirty years ago, notwithstanding the increase in the general average of human longevity.

One hundred and fifty thousand die in this land each year of tuberculosis, a large proportion of them at the age of greatest value to the community.

Eight hundred thousand children and adults in the United States each year fall fatal victims to communicable diseases.

Five hundred thousand deaths each year occur among children because of the practice of "letting all of them catch whooping cough, measles" and other contagious diseases.

The ill they did was not buried with their bones, because there are five million others sick as a result of the scarlatina, measles, mumps and

other infections which the half million helped to spread.

Thirteen and a half million wage earners are laid up for repairs each year without earning power because of so-called industrial sickness; eighty-five thousand deaths occur among these, traceable to accidents which are really due to the carelessness, inattention, fatigue and illness of those who must attempt to work or starve.

Seven hundred thousand others fall victims to four weeks or more disability from factory injuries which the application of the knowledge we have would almost wholly prevent.

The postponement and banishment of old age has been the dream of mankind for thousands of years. The old-time alchemists spent many long, toilsome days in fruitless search for the philosopher's stone, which it was confidently believed would transform the old man into youth..

When does the average individual begin to grow old?

"How long can the execution of this death sentence be postponed?" This question was in effect answered three thousand years ago when the psalmist said, "The days of our years are three score years and ten." Physiologists are agreed that the age limit should more nearly approximate the century mark than the biblical "three score and ten."

Let us study existing conditions for a moment and see if either doctrine holds good at the present time.

In 1870 in Chicago the expectation of life at the time of birth was thirteen years, and in 1910 it was thirty-five years, an addition of twenty-two years, or 170 per cent, increase to the average person. The following table shows the decrease and increase of mortality by age periods since 1880 in the registration area:

Under 20, decrease.....	17 per cent
20 to 30, decrease.....	11.8 per cent
30 to 40, decrease.....	2.3 per cent
40 to 50, increase.....	13.2 per cent
50 to 60, increase.....	29.2 per cent
Over 60, increase.....	26.4 per cent

The United States mortality statistics show that the general death rate in the United States registration area declined 24 per cent from 1880 to 1909; that in people below forty years of age the decrease was 17.2 per cent and that in people about forty years of age it increased 26.8 per cent.

Further analysis shows that the decline in the general death rate occurred chiefly in the diseases of children and early adult life and came wholly from diseases of the communicable class.

Degenerative Diseases

Taking the whole list of degenerative diseases, so as to avoid inaccuracy in tabulation and classification for the thirty years, 1880 to 1909, as reported in the registration area, it shows an increase of 104 per cent (that is for affections of the heart, blood vessels, kidneys, etc.). Of interest in this connection is the percentage of increase due to degenerative changes by age periods since 1880, as follows:

Below 20, increase.....	17 per cent
20 to 30, increase.....	33 per cent
30 to 40, increase.....	32 per cent
40 to 50, increase.....	60 per cent
50 to 60, increase.....	94 per cent
60 and over, increase.....	92 per cent

The very heavy increase in the mortality from degenerative diseases during the most productive years of life, amounting to 60 per cent, between the ages of 40 and 50, illustrates the degree of life strain that affects our people; it shows also that the increase does not fall solely among the aged, but reflects a deplorable and unnecessary loss among those in the prime of life.

The loss of life in the United States from degenerative diseases based upon registration records is 307,413 for the single year 1915, and for the ten-year period from 1900 to 1909, 2,882,112; on the same basis the complete loss of life from 1910 to 1920 due to degenerative diseases will be 4,167,739. Half of these would not die if the average health from middle life upward was as good as it was thirty years ago.

The following diseases are deserving of detailed consideration, namely: Cancer, Bright's Disease, and Diabetes.

Cancer. The death rate from cancer in the registration states for thirty years, 1880 to 1910, shows an increase of 104 per cent; 67 per cent of this increase occurred between the ages of 40 and 60 years. The average age at death from cancer was 59 years; but 83 per cent of the deaths for five years, 1906 to 1909, occurred above 45 years of age.

In Massachusetts, New Jersey and in sixteen American cities, the government report indicates an increased mortality from cancer of 100 per cent in the past three decades.

The cancer death rate in the registration areas of United States in 1911 per 10,000 population was 0.78; in England and Wales, 0.97; the highest rate was in Vermont, 10.1; the highest city was Albany, 12.3; in the colored population it was but 5.7 per 10,000 living.

While cancer has increased in younger ages, its greatest advance has been in middle life and old age. In ten states, 1901 to 1911, it increased as follows:

Age 45 to 54.....	14 per cent
Age 55 to 64.....	31 per cent
Age 75 and over.....	45 per cent

Combining all ages for the ten-year period, 1901 to 1910, the increase in the male cancer was 29 per cent, and in the female 23 per cent; in other words the number dying from cancer at the present time is about 25 per cent greater than ten years ago.

In the absence of any knowledge as to the specific cause of cancer, its non-preventibility seems to be taken for granted by the public, and even by many physicians. Probably one-fourth of the death rate of this malignant disease is due to the ignorance or neglect of its early manifestations and another fourth to procrastination in seeking surgical relief after the disease is positively recognized.

Bright's disease, so-called, is a disease of civilization. They advance together. Its etiology is related to food, sedentary occupations, strong drink, close confinement and mental strain. In short, it is caused, as a rule, by improper living habits. The terrific increase in the mortality from nephritis is indicated wherever comparative statistics are found; for instance, in Chicago in ten years it increased 47 per cent*; in Memphis, 50 per cent; in Richmond, 106 per cent; and in New York, 132 per cent. In the registration area this death rate was highest in New York, 132.0, and lowest in Montana, 52.0. In the registration area in 1911 the death rate among the whites per 10,000 was 9.43, and among the colored, 17.04; in the cities the rate was 11.27; in the rural sections, 7.50; in the registration area, 82 per cent of the deaths from kidney disease was among people about age 40.

*In 1907 it reached a maximum of 12.19 per 10,000 population, which has gradually declined to 8.39 in 1917.

Diabetes. While the definite causative factor still is obscure, research directed in the field of chemistry of metabolism has done much towards checking the course of the disease especially in early cases.

The statistics so far presented show the increase and decrease in the death rate by ages. It shows that the average length of life has advanced and that the extreme span of life has been materially shortened and shows conclusively that the death rate has materially decreased, for all age periods under forty years and progressively increased for all age periods over forty years. Showing that as one class of diseases is conquered another takes its place—that the diseases we are conquering are the self-limiting type and that the diseases that are on the increase are those of the degenerative class.

Let us now proceed to discuss the factors which are believed in a large measure to be responsible for present day conditions.

There are some who believe that the increase in the death rate after middle life is due to the saving of lives in the younger ages, that many of these lives pass into the older periods with weakened power of resistance. It is true that a large proportion of our city babies died only a few years ago and that we now save them, but it remains to be seen whether they grow up with that vigor and physique which is necessary for efficiency. If we can form any judgment at all now, it is to the effect that we are only postponing the extinction of those types a generation or two. There is no question but what this feature will have a marked bearing on the future death rate for the periods above forty years, that it is not a factor at the present time in influencing the mortality for these periods is well illustrated in Chicago where the saving of infant mortality has been so recent that none of them have passed into the older age periods, yet, notwithstanding this, the death rate from degenerative diseases has increased by leaps and bounds for the last thirty years.

That conditions in life in earlier ages have an influence on later mortality is apparent. Heredity or the physical endowment at birth must be considered as a causative factor of degenerative diseases after middle life. Diseases of early infancy also have a bearing upon the question, for

instance, heart disease, Bright's disease and impaired vitality are frequently sequels of acute infections of early life. How frequently do we see chronic nephritis following in the trail of scarlet fever and diseases of the heart and vascular system following as a result of so-called rheumatism, typhoid fever, etc. These impairments go on unnoticed until, under the stress of middle life they terminate in one or another of the degenerative diseases.

Occupation is one of the most important factors contributing to middle age mortality. The character of modern industry has completely changed in the last fifty years and we must consider the objective phases of occupation which are inseparable from present-day working conditions. The presence of large numbers of workmen under one roof brings about new and distinct problems of hygiene in industry; it raises the question of purity of the air supply, its temperature and humidity, the adequacy of natural and artificial light and many minor details which in their entirety markedly affect the health conditions of the workmen. We must also consider the factors of dusts, fumes and poisons which play a significant part in present day occupational mortality. That early occupation bears a relation to degenerative diseases after middle life is easily confirmed by the study of mortuary statistics which are all loaded with indication of occupational poisoning of some sort in early life.

Unmarried Adults. Another factor operating to increase mortality death rate is the number of unmarried people in excess of their proportion, to the marriageable population, namely, 17,000,000 unmarried people in the United States, divided as follows: 9,000,000 unmarried women above age 15; 8,102,000 unmarried men above age 20; 7,226,000 of these men are between ages of 20 and 44; 500,000 are between ages of 45 and 54. The mortality statistics of married and unmarried people is shown by the tabulation of Prof. Wilcox of Cornell University.

These statistics cover the population of the state of New York, excepting Buffalo and New York City.

Comparing the death rate of unmarried with that of married men, and of unmarried with that of married women, we get the following results:

Ages	Death Rate Unmarried Men	Death Rate Unmarried Women
20-29	57% greater	18% less
30-39	119% greater	17% greater
40-49	105% greater	22% greater
50-59	69% greater	37% greater
60-69	60% greater	32% greater
70-79	39% greater	34% greater

Why should the death rate of single men be so much higher than that of married men in the same age group? Why should the death rate of single women also be higher than that of wives? Above group 30 to 39 the death rate of husbands is greater than that of wives. Why is this so? These are problems well worthy of study. Lack of time prevents these considerations in this paper, but that it has a bearing on the death rate is quite apparent.

In passing, it is of interest to note that in general women live longer than men. The great common diseases such as tuberculosis, pneumonia and heart disease kill more men than women, not only in the community as a whole, but at any given age or in any given year.

The tiniest girl baby resists the infectious and poor food diseases of infancy twenty-five per cent. better than her boy brothers and cousins. Women have a lower death rate from the acute infections than men have. They bear persistent and agonizing pain better, they stand the shock of surgical operations better; more of them survive to old age, and more than twice as many of them become centenarians.

The United States census report shows that from the very first month of the first year of life and for every successive year and decade following the death rate is higher in boys and men than in girls and women; that more women than men reach extreme old age and that there are in every community nearly 20 per cent. more women over seventy-five than there are men.

A study of the problem of the millions of surplus females in European countries reveals the fact that, although there were more boy babies born than girl babies, the girls, by their superior toughness and resisting power, showed a lower death rate at every age of life than the boys, and forged steadily ahead through each successive decade, until, long before middle life, they outnumber them heavily.

Neither American nor European statistics

throw any clear light upon the question of the reason for the superior vitality and viability of women. First of all, is the explanation that women, living a more guarded, sheltered and indoor life than men, are less exposed to accidents, injuries, infections, to say nothing of battle, murder, etc. Statistics confirm this claim to the extent that something like four-fifths of all the victims of industrial and railroad accidents, homicide and criminal violence are men. More men also die of the great infections like pneumonia, tuberculosis, rheumatism, typhoid, probably for the reason that the habit of their lives bring them much more frequently into exposure to the germs of these diseases.

However, accidents and homicides are not sufficient explanation, for the reason that they comprise only about six or seven per cent. of the total mortality, while the difference between the death rate of males and females at all ages under fifty ranges from twelve to twenty-five per cent., while the excess of men over women who fall victims to tuberculosis, typhoid, etc., is less than one per cent.

That the accident and exposure theory is not a sufficient explanation is shown by the following. The superiority of female vitality over male is greatest and most unmistakable, not merely in the earliest years of life, but in the very earliest months. In fact, it is greatest in the very first year after birth, when the death rate among boy babies is nearly thirty per cent. higher than among girl babies.

Then comes the reasonable and valid explanation that the superior longevity of women is due to the much greater moderation and morality of the habits of life, their almost total avoidance of tobacco and alcoholic excess, but even this does not explain, inasmuch as the superior viability of women is as marked in France and Germany, where women use alcoholic liquors as an article of daily diet just as regularly as men do, as it is here in America, where only one-fifth of the women take alcohol habitually. It is as notable in prohibition states as in wide open ones. Even in the foreign born of our population a considerable percentage of whose women use alcohol habitually, the superiority of women over men is slightly greater than in our native born population.

So far we have listed these environmental conditions which seem to be in favor of women, and

yet we have failed to explain the mystery of their superior survival power, when in every other respect they stood equal with men, nor have we taken into account the actual handicap which the mere fact of sex imposes upon them. First and most unfavorable for them all is the extraordinary indoor, confined life which the vast majority of women are more or less compelled to lead.

Next comes the risk and fatalities of child birth and of the diseases peculiar to women, including their special liability to cancer at certain ages. In fine, we seem to be thrown back upon the conclusions that there is an inborn and inherent difference between the sexes in survival power, which, however, has not up to the present been satisfactorily explained.

Tobacco and Longevity. Inasmuch as heredity, hygiene, constitutional diseases, dietetic errors and autogenous toxins which may produce degeneration are incidentally alike in both sexes, we have to search for other poisons as the causative factor in producing the greater percentage of degeneration in the male over the female.

As a causative agent in producing early senility, tobacco is classified as one of the primary factors—the tobacco habit is almost exclusively met with in the male. Lorand places tobacco above all other agencies because of its power to elevate arterial tension. The active principal of tobacco is nicotine, the physiological effect of which is now well understood.

Brunton, the famous English physiologist, says, "I do not know of anything that causes such a tremendous contraction of the blood vessels and raises blood pressure to such an enormous extent as does nicotine."

Huchard, a noted French teacher, shows by experiments that excessive use of tobacco causes angina pectoris, by exciting spasmodic contraction of the small vessels of the coronaries of the heart. He further pointed out that high arterial tension is frequently observed in smokers and maintains that nicotine produces arterial sclerosis by reason of the frequent hypertension which it induces.

Dr. Scott, in his article, "Road to healthy old age" (1914), after enumerating several of the causes of arteriosclerosis, says, "Last but not least I blame the cigaret, that pernicious form of tobacco smoking of which a man never knows when he has enough."

In the final analysis tobacco stands today indicted as one of the most pernicious of cell poisons, causing slowly developing arteriosclerosis and cardiac inefficiency, with resultant presenility in middle life.

Alcohol. The relation of drink to longevity has of late been receiving considerable attention. Every analysis of the mortality of persons employed in the manufacture and sale of alcoholic beverages sustains the conclusion that the death rate in general is excessive.

An actuary of one of our largest insurance companies gives the experience of seven American companies and one Canadian company, regarding abstainers and non-abstainers, from which it appears that the mortality was from 10 to 30 per cent. lower among the former than among the latter. He also shows from the experience of two large insurance companies that the mortality among abstainers was distinctly lower than among those called "temperate" and very much lower than among "moderate users."

In dealing with the statistics of persons who used alcohol each day, but not to excess, he showed that among those who at the date of application for insurance took two glasses of whisky a day, but did not drink to excess, the mortality was 80 per cent. in excess of the normal. He also said that there was an extra mortality of 40 per cent. among the policy holders who drank to excess at least five years prior to date of application for insurance, but had been very temperate for five years before acceptance for insurance.

With regard to the policy holders who had taken a cure for alcoholism, he showed that the extra mortality among those who had been total abstainers for at least five years following the cure had been 35 per cent., while among those who had been temperate for that period the extra mortality was about 70 per cent.

The effects of intemperate use of alcohol upon middle age mortality is best illustrated by the reports of the United Kingdom Temperance and General Provident Institution of London, an insurance organization. This company placed the abstainers separate from another carefully selected list about equal in number, all supposedly moderate drinkers. The death rate among its abstainers for the past 40 years was 27 per cent. lower than among the general class.

In 1880 the per capita consumption of alco-

holic beverages was 10.08 gallons; in 1909 it was 21.85 gallons, an increase of 117 per cent.

Since 1880 the death rate in registration states from degenerated diseases in which alcohol is conceded to be an important positive factor has increased 104 per cent.

That alcohol is the sole, or even the chief cause of this increase cannot be authoritatively stated, but that it is a powerful factor is undeniable.

Focal Infection. Focal infections are today recognized as a primary factor in causing disease and producing early degeneration. Diseased tonsils, pus infections, hidden teeth troubles, decayed, neglected or badly treated teeth, inflamed gums may act as a gateway for the introduction of deadly germs into the system, which in turn may cause almost any systemic disorder, such as stomach and intestinal trouble, anemia and other blood disorders, chorea, rheumatism, Bright's disease, arthritis, myocarditis and other tissue degeneration, neuralgia, meningitis, melancholia, etc.

The channels by which focal infections produce disease and undermine the health may be divided into two classes. First, through the introduction of specific disease germs like that of rheumatism into the circulation by way of inflamed or diseased gums, tooth roots and cavities.

Second, through the absorption of pus from tonsils, pus cavities or gums into the system, causing the diseases just mentioned and perhaps aggravating other diseases, particularly tuberculosis.

Rheumatism appears to be the disease most commonly caused by bad teeth. True rheumatism is due to a specific germ, and this most often finds entrance to the system through the channels just mentioned.

The streptococcus rheumaticus has been isolated from between the teeth, from pus cavities around the teeth, from unhealthy tonsils, sore throat, the blood, the heart valves and other tissues of people who have suffered or died of this disease. The rheumatic infection starting in the tonsils, teeth, etc., enters the blood and lymph channels, the lungs, pleural membrane, heart, joints and nervous system.

Over 90 per cent. of Americans have defective, germ covered teeth, gums, tonsils and throats. The heart is affected in nearly three-quarters of cases of rheumatism. The delicate interior of

the heart, especially the valves, become ulcerated and roughened; the pericardium may also suffer; also the heart muscle too often undergoes fatty degeneration with weakening of the cardiac walls.

By way of illustrating the great source of danger to the system from absorption of poison from focal infections, we have but to consider what takes place in that common disease which we meet every day, known as pyorrhea. In this condition the pus may be exuded from the diseased gums and then taken into the system by being swallowed, or if it is not present in sufficient amount to run from the gums it may be absorbed by the system in its effort to eliminate the diseased condition. In the latter case, it is as dangerous as when it is exuded into the mouth. The pus taken into the system adds to the dangerous burden on the kidneys already created by conditions tending to Bright's disease and diabetes and leads to the final development of these and other diseases in a great number of cases.

The amount of pus that may be taken into the system from a very ordinary case of pyorrhea is startling. If the tissues around each one of the thirty-two teeth exude one drop of pus every thirty minutes, that would be a very moderate quantity. In that case the patient would in twenty-four hours have swallowed three ounces of pus, and no system is strong enough to resist that amount of poison. If only one and one-half ounces of pus were swallowed every day, that would probably be sufficient to cause the outbreak of Bright's disease or tuberculosis in a person already tending towards that condition.

Auto-intoxication or alimentary toxemia is now accepted as an established pathological condition capable of producing sufficient poison to cause degenerative changes in various tissues and organs. Clinicians know how powerful these toxins, bacterial or pathologic, are and that a very small quantity may cause great disturbance in one or more organ tissues of the body. As a rule these toxic changes are not limited to a single organ.

Experience has shown that no organ exists for itself alone. There is such a thing as the correlation of organs and tissues, each and all acting together as an inhibitory or excitatory mechanism. The function of every organ depends on processes taking place in other organs and the products of its own activity influence the func-

tion of other organs. These products may be ferments which promote decompositions in the blood, or they may be hormones which regulate the activity of cells. Functional disturbances in any organ may therefore affect other portions of the body.

Recent investigations in renal pathology have shown the very important role played by auto-intoxication in kidney diseases. It requires but a moment's reflection to appreciate the extent to which abnormal waste products brought to the kidney for elimination, if for any reason elimination cannot take place, can irritate the cells of this organ. Conditions in other organs may be very similar.

As we go deeper into the pathology of waste retention we note the resulting phenomena from auto-intoxication, as for instance, the circulatory changes, especially the increase of blood pressure. Is it not reasonable to believe that many, if not all, of the degenerative diseases are closely related to faulty elimination or auto-intoxication.

The most powerful and dangerous of the intestinal poisons are indol and phenol, produced by the decomposition of elbuminoid substances in the large bowel. In a series of experiments conducted at the Pasteur Institute it was demonstrated that when phenol and indol are administered to guinea pigs, rabbits and monkeys for a considerable period, certain symptoms characteristic of senility result.

Our bodies are chemical laboratories, in which there are such compounds, acids and bases as constitute all other unstable organic chemical bodies, which are the result of the changes going on in the body as a whole, or in the individual cell, in taking in new matter, fixing and changing it, and throwing it off again. These processes are what are known today as metabolic processes, with its subdivision into catabolism and anabolism. These splitting and tearing down and building up processes are always going on. The bacteria themselves are indispensable to the digestion of some of the foods that we eat, especially the proteins, and the important thing to know is that too much decomposition of food of whatever kind in the alimentary canal without sufficient muscular exercise to bring about the combustion sufficient to burn it up, is going to result disastrously to the individual.

Metchnikoff advances some notions pertaining

to the mechanism of senility. We believe that the phagocytes after defending a man's body against the invasion of deadly microbes for many years, finally become traitors and turn up their host in his old age and attack him viciously. These traitorous phagocytes have received various names, depending upon the tissues they choose to attack; for instance, those that attack bone are osteocasts. The lime salts thus absorbed from the bone are taken up by the circulation and deposited in various organs. While it was an unmixed benefit in the old man's femur, it becomes an unmitigated curse when transferred to his aorta.

Veneral diseases have a pronounced effect upon the mortality at the later ages from the serious circulatory, nervous and other organ and tissue degenerations which they induce.

The Mind and Longevity. The mind has much to do with health and longevity. Especially is this true when one is past middle life. At this period it is probable that more lives are shortened by worry than by either overwork or exposure.

This is an age of high pressure and fast living. In our great cities the stress, turmoil and pleasures of life are beating hard upon the constitutions of men.

The rapid growth of our country, the enormous increase of business due to the development of our natural resources, and the consequent tendency toward the concentration of the population about business centers, has greatly altered the national mode of life. From the simple outdoor life of our forefathers, we have become a race of dyspeptic money getters, whose highest ambition is too often the almighty dollar, and whose chief regard for health lies in the fact that its possession assists in the making of money.

The increase of American life strain is not alone due to the high pressure of modern existence. One element of our population is undoubtedly deteriorating from overstrain, due to excessive physical and mental exertion. Another large group is suffering from the excesses of indolence and physical inactivity. The automobile has brought many people into the open air, but has added to the nerve strain, and encourages physical inertia, overeating and drinking, all of which promote physical degeneration. The tendency of most modern invention is to reduce physical exercise and to encourage obesity.

From the foregoing it is very apparent the true cause of premature death is largely a question of erroneous habits of life.

The stress of our rapid and complex existence together with excesses or errors in eating and drinking, are the largest factors in breaking down the resistance to affections peculiar to middle life and old age. Probably 50 per cent. of all cases of disease could be prevented by reasonable hygienic precautions, and the cultivation of life habits which tend to neutralize the strain of modern existence and build up a resistance to degenerative diseases in general.

The secret of prevention of premature deaths lies in the recognition of the earliest signs of disease in an individual, and this can be only determined by frequent examination.

In this way we will be able at the earliest possible moment to correct the business, social and domestic conditions which makes such heavy demands upon brain, nerve and artery in order that a greater degree of bodily resistance may be built up to offset debasing influences. Just as in business life we draw largely upon modern inventions and the resources of science to increase efficiency, so must we avail ourselves of such knowledge as science now affords us in the care of our bodies and in the systematizing of our lives, to the end that economy of bodily resources shall be considered just as important as the conservation of natural resources.

If we can by frequent physical examinations add five, ten or more years to the average longevity of people past middle life, it would be a valuable national asset.

25 E. Washington Street.

DISCUSSION (ABSTRACT)

Dr. Graves was disappointed in the fact that neither Dr. Sadler nor Dr. Whalen dwelt any length of time upon the question that Dr. Robertson brought up about ways of overcoming some of these things. It would be interesting to know just how many physicians practice the things that Dr. Sadler and Dr. Whalen have talked about; how many practice what they are preaching. In his practice he can count on the fingers of one hand those that come regularly once or twice a year to be examined. He doubted very much if Dr. Whalen has been examined for ten years. Possibly if we were to show the necessity of being as healthy and keeping as healthy as it is possible for us to keep, this might add a little bit to the influence that we have upon our individual patients. Every school teacher that is allowed to

go into the school room should be carefully examined every time she begins a new session of school, and oftener if it seems advisable. We can't make the physicians, perhaps, be examined every year, but we can have the school teachers examined, and then it is absolutely essential that the school children should be examined every year when they enter the school.

He believes that if the physicians were to band together, if the ministers of the various churches, the priests and the protestant ministers were to unite in a campaign, if the school teachers throughout this country were to join with them, that something practical might be accomplished along the lines as outlined by the gentlemen who have read the papers.

Dr. Sadler said that in his experience for a number of years the only way this can be done is to have your clients agree to about the time of year they would submit to this; keep a card index; notify them, and ninety per cent. of them will report. Each year in the month of June he goes through his own examination and believes if he did not have a specified time and a regular program that he might run two, three or four years, because we are all alike.

Dr. John Dill Robertson (Chicago) suggested a solution of this problem whereby a great many of these preventable diseases may be prevented in universal physical training. The best illustration of the value of that training is that it is carried out now by the Young Men's Christian Association and the Young Women's Christian Association. The members of these organizations are examined. They are classified. The members of the organization who have diseases which prevent their taking systematic exercises are so notified and they are advised to receive treatment that they need. The other members of these organizations are systematically trained in physical development.

That method should be instituted in all our schools. The result would be that by the propaganda of education as to the value of physical development and physical training a great many of these degenerative diseases would be prevented. Doctor Whalen hit the nail on the head when he said it was a matter of habit. There are some diseases which they say should be prevented before the child is born, but these diseases certainly should be prevented by commencing a systematic training in life as early as possible and then carrying it on.

Of course that carries with it the systematic examination of the individual from time to time. The other suggestion as to team-work carries with it always a little suspicion whereby the community is rather distrustful of physicians. They think where they organize for team-work they are doing it for selfish reasons, whereas if the people are educated to believe that their children

should be inspected by the family physician they will do it voluntarily.

Dr. Howell thought the only thing we have to work on is the fact that we have a law whereby the students or pupils of public and parochial schools are supposed to get 15 minutes' physical exercise every day, and he thought that the teaching authorities should be compelled to see that the child gets that training. Then the matter of habit will come in and they will continue that throughout life.

Dr. WHALEN: To get out from under the insinuation of hypocrisy by Dr. Graves, I am reminded of a statement that when doctors take what they will give and lawyers give what they will take and preachers practice what they preach, it is then time to put on your ascension robes. I will say that so far as my own experience is concerned, that Dr. Graves is very much mistaken, that for sixteen years I have taken a personal physical examination, not once a year, but not less often than once in six months and frequently once in three months.

PRACTICAL IDEAS REGARDING THE TREATMENT OF ACIDOSIS, COM- MONLY CALLED UREMIA*

J. H. STEALY, M. D.

FREEPORT, ILL.

I wish first to take up edema where there is no circulation. The most of us, if not all of us, have seen cases after injury—say of the extremities—where the principal artery has been injured so as to give us a break in the circulation with cold extremity, where we were unable to feel a pulse and yet we often thought we could get a feeble pulsation, and sometimes be in doubt until near the time demarcation had shown up.

The limb becomes swollen and there is entire absence of circulation of blood current—contrary to the teaching that variation of the blood pressure is the cause of the edema. I wish to show you this teaching has been erroneous—the teaching that increased blood pressure has forced the serum (blood) out of the capillaries into the cellular tissue, thereby the affected cells are made to swell.

In a limb of this description we have no blood pressure, and yet marked edema, showing complete absence of blood pressure seems just as potent in bringing about swelling as an imaginary increase.

This being true, we must cast about for some

other, logical, unexplored cause for the edemas.

Now, what happens when the circulation is completely cut off?

In the warm blooded animals there is an accumulation of carbonic acid in the part. In the absence of sufficient oxygenation we have a bluish purple skin; in such tissue are produced other suboxidation acids, lactic acid being among them. The effect of these acids upon proteids—if gelatine or other protein material is immersed in cold water it swells up—as you have all noticed in any of the meats.

Now, if you please, acidulate this water and the flesh fibers soon become enormously swollen. Now this is just what happens in these cases. Normally, proteids have a certain capacity for water and swelling, but when the fluid is acidulated the fibers (protein) absorb more than the normal amount of water and produce greater edema. The limb has not had more fluid forced into it but the tissues themselves have been changed by disease whereby their capacity to hold water has been increased.

This hydrated condition of tissue to such water also exists under other conditions of which we will speak later.

The worst edema occurs in the dead, if water is furnished; for instance the drowned, or a dead body thrown into the water. Note the enormous general edema. After death the normal chemical oxidation of tissue is changed by the so-called postmortem acid which acts upon the (protein) colloids of the tissue, increasing their holding capacity.

In the living the source of edema is from the body fluids, and in the case of the dead it is taken into the system from without.

The general edemas as the nephritis of heart disease—a concrete example: Patient comes to you with swollen legs and dyspnea. For a few months previously was treated for stomach trouble, then for enlargement of liver. We find the swelling has been ascending from feet and legs for a couple of months. His looks and history point toward cardiac trouble. History of tonsillitis several years before, followed by rheumatism, one or more attacks. Now patient cannot lie down, dyspnea and other symptoms accompanying these cases; pulse 90-100 unequal; venous pulse in neck, lung apices clear, bases relatively dull—distant breath sounds, fremitus decreased

*Read at the Sixty-eighth Annual Meeting of the Illinois State Medical Society at Springfield, May 21, 1918.

with evidence of bilateral pleural effusion, cardiac dullness increased, apex beat in 6th intercostal space 2 inches to left of the nipple. Cardiac dullness at lower first rib, one inch to right of sternum. First heart sound has lost its booming character, and neither this nor the second is purely over its proper area. (Valvular.)

The disease involvement direct or through dilatation which involves all the valves with insufficiency of heart muscles, an occasional rise of temperature, irregular type, varying leucocytosis; we diagnose infectious endocarditis. Blood pressure 128—diastolic low. This evidence of cardiac disturbance with blood pressure as given, show diagnosis and prognosis different than where we have high blood pressure.

The large liver, lower abdomen, back and buttocks swollen—ascites—feet and legs very edematous. The central organ or pump is embarrassed and no more does its work properly.

The valvular defects cause incoordination of heart muscles, with irregular rhythm and intensity of heart beats. E. C. Rosenow has shown that these cases suffer from infection and may involve heart muscles, valves and pericardium or show a pericarditis or recent term, "pan-carditis."

Why this edema? First, incompetent valves. Second, decreased cardiac contractile force—the heart muscles do not push the blood stream through the circulatory system, consequently all tissues of the body suffer. The carbonic gas produced normally in all living cells will lag in its normal removal, which will give sub-oxidation of all tissues of the body, which produces the condition previously spoken of as hyperacid condition or acidosis with over swollen proteids.

The history of onset of edema is much different than in the nephritis, where we have swollen eyes, puffiness of the face, going with a general edema as in the parenchymatous nephritis.

The first class of edemas will often disappear by putting patient to bed with or without use of medicine, showing the absurdity that an increased blood pressure is the cause of edemas. Here we usually have low pressure, as the drugs given usually raise the blood pressure, and if so, ought to increase edema instead of diminishing it.

These drugs are a stimulant favoring better circulation and oxygenation with better removal of carbonic acid and other acids, with reduction in capacity of these acidulated tissues to hold

water; hence we get a reduction of edematous tissues.

The time comes in the heart cases when rest and drugs fail to further stay the progress of disease. The edema increases, dyspnea, evidence of edema of tissues nearer the heart, the liver and kidneys, nearing the end with edema of brain cells, delirium and all its doleful sequencs. The mechanism of the liver edema, the backing up of blood in the liver with capillary blood pressure forcing blood into liver cells, which was formerly believed, I wish to disprove.

It has been shown that if the portal vein is tied, edema of the liver does not occur. The portal blood has nothing to do with the maintenance of the liver structure in normal state. But if the hepatic vein is ligated we get edema of the liver.

The venal blood of the portal vein and arterial blood entering the liver leaves the liver through the hepatic vein.

The liver is oxygenated through the hepatic artery. Edema of liver in heart disease is due to the hepatic artery being obstructed in its flow with lessened oxygen with the previously stated consequences—acidosis and edema of liver parenchyma.

If this condition continues, the upper portion of the body, face and neck become swollen—at this stage we have headache and drowsiness supervened with nausea and vomiting, frequently accompanied with passive congestion and edema of stomach. Here we have acid intoxication with edema of the medulla. These are early symptoms of a serious pathological condition. Headache, drowsiness, increasing stupor are to be taken as evidence of acid intoxication and edema of the brain, and are the first danger signals of serious brain symptoms; if not immediately relieved will soon lead to stupor and coma. The medullary involvement is expressed in the stertorous breathing, so frequent before death.

If the patient does not die at this time we find the alveoli of the lungs are being filled with fluid, as are also the bronchi, with a developing pulmonary edema. Remember, this *edema* is not the *cause of death* in cardiac patients. Cohnheim pointed out years ago that they develop pulmonary edema because they are dying. These edemas are the same as mentioned in the liver cases because the pulmonary blood supply is not

through the pulmonary artery nor vein but from the bronchial branches from the aorta.

The changes occurring in the kidney in heart cases. The mechanism is similar to that occurring in other tissues of the body. The kidney, too, develops the edema, an inadequate blood supply, an accumulation of carbonic and other acids. These acids cause a swelling of the protein colloids of the kidney to hold an abnormal amount of water and thus the increase in size of the kidney so common in heart cases. At this time another condition is the beginning of granular casts of the kidney cells. These granules give the kidney tissue a cloudy or boiled appearance which with the swelling with other group of colloids give what is known as cloudy swelling.

Under this acid condition the kidney protein goes into solution. It is this softening which marks the origin of albumin in the urine.

This albumin is not due to breaks in the blood vessels nor escape of blood elements by diapedesis, but is due to acid solution of the kidney with the tendency of the structure to fall apart.

The colloid material which attaches kidney cells to their base, is more readily soluble in acid than the kidney cells themselves. The cells stick together and they separate into groups from their tubules. This forms the origin of kidney casts, whether epithelial or hyaline depending upon the concentration of acid present in the kidney and the length of time they have acted upon the kidney structure; so the character of casts depends upon the degree of destruction. The kidney under the influence of an acid power has its urinary secretion impaired. This decrease of urinary output goes with uncompensated heart lesion.

It is not strange from these conditions that casts and albumin are almost constant in uncompensated heart lesions. With this heart failure, intoxication of the kidney with acidity must increase. With failure of treatment, these kidney conditions become augmented, but if treatment is beneficial the urinary secretions rapidly increase with diminished acidity and convalescence. The urine acidity should be made by using 2 drops of a saturated alcoholic solution of methyl red added to 5 c. c. of urine.

Fischer says no cardiac or other type of cases ever recover who secrete urine that remains persistently acid to methyl red. A fall in acidity to below the turning point of methyl red makes the case more hopeful. Carefully following the acid-

ity of the urine guides us to the amount of alkali to be administered. If very large doses of soda bicarbonate given in any of the methods fail to alkalize the urine, the patient's prognosis is very bad and patient will not live long. (Fischer.)

In heart cases with broken compensation we get sub-oxidation with edema and acidity as previously alluded to. In obstetrical cases.

A nephritis of general intoxication: Patient's urine was negative; amount, 270 to 330 c. c. in 24 hours. Everything apparently normal. Labor normal. In a few hours delivered of normal child. A little ether was used during delivery of head. Temperature normal. For several hours after delivery all went well, then, awaking from a sleep, she complained of headache, urine less in amount, catheterized specimen was acid to methyl red, a slight general edema. In 24 hours after labor she began to vomit, drowsiness set in. Two drams of soda bicarbonate with like amount of magnesium sulphate in solution were given. Headache and vomiting persisted; few hours later she had a convulsion. Now what had happened? Urine negative at onset of labor. Were these symptoms due to diminished output and designated uremia secondary to loss of kidney function? If so, why not duplicate this condition by double nephrectomy? In nephrectomized animals none show signs of symptoms generally classed as uremia, though they may live 1 to 3 weeks. They showed no mental condition, neither do these animals deprived of these kidneys show edema. (Fischer.) Animals that were given uranium nitrate within a few hours began to develop edema. These animals showed a decreased urinary secretion with casts and albumin (a nephritis); likely to be drowsy and on irritation become convulsed, but after double nephrectomy may live many days. The poisoned animals lived not over 3 to 6 days. The poisoned animal presents the same picture as our patient did. When suffering from intoxication incident to pregnancy as it strikes the kidneys, the intoxication produces edema with albumin and casts. As it affects subcutaneous tissue edema results. If it affects the brain and medulla these organs swell and cause headache, visual changes, nausea, vomiting, stupor, coma, convulsions and possibly death. This is not uremia, but toxic edema of the central nervous system and is *not* due to loss of kidney function.

It is very important to get the relation of these

two conditions well established. We are all too prone to make diagnosis of uremia with positively negative urinary findings. The head symptoms must not be considered secondary to kidney, but may be of the same pathological type—edema and the one not *consequent* to the *other*, but both due to a toxic state acting upon different organs.

Poisons injected do not necessarily involve the same organs at the same time or rate.

In pregnancy we may have the kidney involved or at another time the head, or rarely the liver chiefly; if so, we call it acute yellow atrophy. One-third or one-half of all convulsions incident to pregnancy occur after delivery. These patients before delivery show a high degree of acid intoxication, yet insufficient to produce edema of kidney, brain or other organ. To an existent acid condition we may add acid production incident to anesthesia, to the muscular efforts in labor.

Added to the acid intoxication subsequent to the narcosis, chloroform, ether or morphine, the two are sufficient to bring about in this critical period of unbalance, by the fatigue of labor, the edema of the brain with convulsions.

Soda and magnesium were given to dehydrate the brain and kidneys. This gave improvement, but in a few hours drowsiness and another convulsion followed, with coma and hemiplegia. We now, in order to more thoroughly dehydrate patient and alkalize the acidity, gave her 1,000 c. c. of a mixture of sodium bicarbonate 8.4 grams, sodium chlorid 28 grams, water qs. 2 liters. This was given intravenously and the patient had no further convulsions, but continued in light semi-coma, so we decided to give her intravenous of 2 per cent solution magnesium sulphate 200 c. c. Patient improved; then later gave another intravenous of 250 c. c. In a few hours she became mentally clear and went on to complete recovery.

I wish to state that before the magnesium sulphate infusion, her mental condition was such that psychiatrists would have diagnosed a mild mania. She was excited and did not know where she was nor did she recognize members of the family, this condition lasting 4 to 5 days. We continued the alkaline by mouth with magnesium in small doses, believing the condition to be due to edema of central nervous system.

Along this reasoning, the purely puerperal manias are essentially toxic edemas of the brain.

If this is true, and we believe it is, perhaps many of the mania cases sent to our state institutions ought to be cured by following along this line of treatment for cerebral edema. Many autopsy findings show nothing other.

An old infection of the kidney or arterial disease may show up for the first time in pregnancy. These possibilities as cause of disease should be borne in mind when pregnancy intoxication becomes a general one, affecting all the body cells, or which may make a certain kidney or brain the chief sufferer, or, so to speak, dominate the general system. Intoxications, as those caused by chloroform, ether, nitrous oxide, or alcoholism, or by a variety of metals, produce a systemic picture of poisoning, clinically of pregnancy intoxication.

In all these there is a tendency toward a general edema, stupor, coma and convulsions, or where most force is exerted upon the kidney, we get albumin and casts with decreased urinary output.

But remember, none of these conditions are secondary to some other—to kidney or brain symptoms—but all are equally due to the primary intoxication, with a tendency to attack all or any one of the body cells at the same time.

To summarize:

1. What is the prognosis of the kidney in these nephritides? If they do not die in their eclampsia and the urine is cleared of pathological findings, the prognosis is good. These patients do not go on to chronic nephritis. They are not especially predisposed in future pregnancies to recurrence of albuminuria or uremia or other types as has been taught. The termination means the termination of intoxication, and if we succeed in preventing consequences of this they have permanently recovered.

2. Always be suspicious of nephritis that continues after delivery, as it is then not of pregnancy origin. The kidney is the seat of infection. We have arteriosclerotic changes. Many of these cases are not due to the pregnancies but to other infections, but may come to light through routine examination, as might easily be discovered in anyone.

3. If we recognize that pregnancy intoxication is a general one, but may make certain organs as the kidney or brain chief sufferer and they dominate the general picture, and the relation

between this type and that of other patients with general intoxication as that of anesthesia, alcoholics and mineral poisoning; all these stimulate clinically the intoxication of pregnancy with a tendency to general edema, stupor, coma and convulsions when the kidney becomes involved, the urine decreased, often dark in color, albumin and casts. None of these symptoms are secondary to some other as to head or kidney, but all are due to the primary intoxication which tends to attack all cells of the body.

4. In nephritis developing in consequence of some soluble poisoning passing through the kidney, the poison tends to involve the whole kidney more or less equally. This, also, is true in a circulatory disturbance through lack of oxygenation. The whole kidney becomes swollen and grayish. Secretion of urine becomes scanty and we get anuria and what urine is secreted is heavily loaded with albumin and casts.

5. All these symptoms constitute a group heretofore held to be characteristic of parenchymatous nephritis and associated with general edema, first shown by puffiness of the eyes. From the above reasoning this generalized edema is not characteristic of secondary parenchymatous nephritis, but shows the patient is the subject of a general intoxication, since the toxic agent may attack and produce edema anywhere in the body.

CONGENITAL HYPERTROPHIC PYLORIC STENOSIS*

CHARLES WALLACE POORMAN, M. D.
OAK PARK, ILL.

Since the publication of the first case of congenital hypertrophic pyloric stenosis by Williamson, of London, in 1841, it has been very interesting and instructive to review the literature and to notice the large number of cases that have accumulated from time to time. The subject, therefore, is a very live one today in the domains of surgery and pediatrics.

Pathology. The knowledge we possess of hypertrophic pyloric stenosis is derived from post-mortem investigations. The size of the pyloric tumor found varies in individual cases. In some it is about the size of the thumb, oval in shape, firm, hard and smooth. Thomsen, of Edinburgh,

holds that the essential lesion is not a muscular but a nervous one; that there is functional disturbance of the stomach and pylorus, leading to ill-coordination, and therefore antagonistic action of their muscular development. In congenital hypertrophic pyloric stenosis the growth involves the muscular fibers, the pylorus being transformed into a solid cylindrical mass, about an inch in length, pale in color, and in some cases as hard as cartilage. The pylorus may reveal enormous hypertrophy of the circular muscles. The intermuscular bundles may be enlarged. In some instances the mucous membrane may be thrown into longitudinal folds and be redundant. Many cases of so-called pylorospasm treated medically with good results, but manifesting a recurrence of symptoms from time to time, undoubtedly belong to the class of hypertrophy with partial obstruction. Marie, Russell and Landerer have reported such cases, and some of them subsequently underwent operation.

The clinical course and the uniform pathologic findings have convinced me that a division of cases of pyloric stenosis in infants into spasmodic and hypertrophic types is not admissible. Hypertrophic stenosis of the pylorus in infancy is a pathologic entity, and should not be confused with other pathologic conditions which may be accompanied by vomiting and occasionally gastric peristalsis.

Symptoms. The symptoms begin within two or three weeks of birth. After taking food there is not much evidence of pain, although the child may appear to be uncomfortable, and relief is obtained by vomiting. According to my observation, the child is normal at birth and is well nourished. It continues to progress normally until about two weeks when it begins to vomit. From one to seven weeks after birth some of these infants begin to vomit; the majority of them begin to vomit in from one to five weeks. The vomiting is projectile, and it usually occurs soon after feeding. The child may retain several feedings, and then eject all of them. Observation of the abdomen will reveal visible peristaltic contractions after feeding and until the child vomits. While the baby may eject practically all of the feedings, still some of the food will usually pass through. If the abdomen is inspected shortly after feeding, marked rhythmic peristaltic waves may be discerned traversing the

*Read at the Sixty-eighth Annual Meeting of the Illinois State Medical Society at Springfield, May 22, 1918.

stomach from left to right. It is stated by some authors that the vomited material in congenital pyloric stenosis never contains any bile; that the pylorus is closed and the bile cannot enter the stomach. In Bunt's table gastric peristalsis was present in 84 per cent and tumor in 69 per cent of cases. In typical cases two or more meals may be kept down, and then the whole is forcibly expelled. Pfaundler found that the first vomiting or onset of the disease was between the fourth and fourteenth days in 50 per cent of the cases, from the second to the third week in 25 per cent, and from the third to the sixth week in 25 per cent. The vomiting is not controlled by the usual medicinal remedies. Lavage may reduce the vomiting to once or twice a day. The weight of the infant is the index to its nutrition. Several authors emphasize the presence of hyperacidity. Constipation is marked and increases in severity. The stools are often devoid of fecal material and resemble brownish or dark green paint or meconium. Occasionally they are tarry. There is progressive emaciation. The loss in weight is inversely proportionate to the amount of food passing the pylorus. The body surface is cold; temperature is subnormal; pulse small, frequent and weak; the general appearance of the infant is one of whining lethargy, with half open eyes and sunken fontanelles. Visible peristalsis is an important physical sign, which is most marked in cases of prolonged duration. The characteristic features of a typical case are the age of the infant, vomiting, constipation, wasting, visible peristalsis, dilatation of the stomach and a palpable pylorus. The condition is much more common in male than in female infants. Holt says that four-fifths of the cases occur in males, and Keefe agrees with Cautley that the disease is usually found in male infants who have been breast-fed and are healthy in appearance. While a pyloric tumor may be palpated in most of the cases, it may be so covered by the liver that it is impossible to detect it. Keefe recalls one case where three physicians thought they could feel a tumor, yet on opening the abdomen they were in error, and it was tucked away under the liver and could not have been felt. Cumston, of Switzerland, states that pyloric tumor was detected in only 25 per cent. of a long list of cases studied. Cases have been observed in which the pylorus was said to be distinctly palpable, and

yet no hypertrophy found after death. Morse, of Boston, thinks it is never safe to conclude that there is no tumor unless the abdomen has been examined with the stomach both full and empty, and with the abdominal walls relaxed, if necessary, under an anesthetic.

Diagnosis. I am satisfied that some other means than palpation of the pylorus is essential to aid in the differential diagnosis between hypertrophic pyloric stenosis and pylorospasm. Wachenheim considers that the diagnosis between pyloric hypertrophy and presumably normal conditions is beset with difficulties, and that as a consequence the differentiation between spasm and true organic obstruction is likely to remain in many cases a matter of great uncertainty unless new diagnostic methods are placed at the command of the physician. Weeks thinks that the cases of babies said to have recovered from this condition under medical treatment were improperly diagnosed as tumor could not have been present. Thomsen, of Edinburgh, says that the diagnosis often rests on a careful study of the history, symptoms and course of the illness, and age of the patient. The presence of visible peristalsis and a palpable pylorus are the most reliable physical signs, but it is not necessary to wait until the pylorus can be felt with absolute certainty before coming to a definite conclusion. Very little importance is attached to the x-ray as a diagnostic aid in this condition.

Medical Treatment. The pediatrician says the medical treatment consists of washing the stomach twice a day with a solution of bicarbonate of soda, grains five, to one ounce of sterile water; rectal injections of one-half pint of normal salt solution, three times a day; small quantities of water by mouth (hot), citrated milk, modified milk, peptonized milk, meat juice or albumin water, or any food which remains fluid in the stomach is to be given in minute quantities at frequent intervals. If the diagnosis is made early, and if the obstruction is only partial, medical treatment is often effective, but it entails a long supervision. The writer believes that in many of the milder forms, patients recover with only medical treatment, but all those that do not improve under such treatment in the course of two or three weeks should be dealt with surgically. With the more severe type only a short delay is permissible. A maximum loss of one-third of the

body weight should be the extreme limit before surgical intervention. It is impossible to reconcile the conflicting ideas that prevail as to the death rate of hypertrophic pyloric stenosis under non-surgical treatment. No large series of cases has been treated medically in America. Hutchinson, of London, in 1910, reported a remarkable series of cases treated non-surgically, with results entirely different from all other observers. In a series of 17 cases in private practice there was not a death; in 64 cases treated in hospital practice the death rate was 78 per cent. From a careful perusal of the literature it would seem that congenital pyloric stenosis is a surgical condition from the time the diagnosis is made.

Surgical Treatment. Williamson published an account of this condition in 52 children, with autopsy findings, in the *London and Edinburgh Journal of Medicine*, 1841. A careful examination of the literature by Shaw, of Albany, in 1904, revealed 117 cases, while Ibrahim collected over 400 cases in 1908. It is evident that the knowledge of hypertrophic pyloric stenosis is disseminating and doctors everywhere are recognizing this condition. W. A. Downes reports 66 cases operated on in five and one-half years. Gastroenterostomy was performed on 31 of the 66 cases, the remaining 35 being operated on according to the Rammstedt method. Of the 31 cases in which gastroenterostomy was done, there were 11 deaths, a mortality of 35 per cent. Of the 20 discharged as cured, 2 afterwards died of gastroenteritis, and one died of diphtheria. The remaining 17 are well and have developed normally. In the last 35 cases the Rammstedt operation was done with 8 deaths, a mortality of 23 per cent. Of the 27 cases discharged as cured, 2 have died since leaving the hospital. The remaining 25 are well extending over a period from a few weeks to one and a half years. The cases operated on according to the Rammstedt operation vomited less and were easier to feed after operation. C. Rammstedt (Munster) in 1913 proposed a new technic for pyloroplasty in this condition, which consisted of making the first stage of extramucosal pyloroplasty, i. e., dividing the peritoneum and the pyloric sphincter, but not the mucosa. As soon as the sphincter is completely divided, the two lips gape and separate.

In my belief this is the operation of choice. If to this technic be added the dissection of the

severed ends of the pyloric muscle from the mucous membrane, and under these free ends of sphincter pylorus the great omentum be gently tucked, permitting it to span a gap in close contact with the mucosa and held in place by four interrupted catgut sutures, the fear of possible gangrene or herniation is well guarded. Possible recurrence by union of its cut edges is not likely as the defect will be strengthened by the adhesions of the omentum.

The Rammstedt operation, with the addition of the omentoplasty, is by far the best, and it is the simplest, quickest and safest. The operation can be performed in from 12 to 18 minutes. If the operation is not too long delayed, there is little danger to the patient. Anesthesia is necessary for about 15 minutes, less manipulation is required, and there is greater ability on the part of the babe to take food and retain it. I have followed this technic in six cases with no mortality.

Cases followed two and three years after the Rammstedt operation showed no interference with health and progress.

Postoperative Treatment. We believe that the postoperative results are dependent to no little extent on the preoperative condition of the patient. Feeding is started as soon as the babe regains consciousness. Daily cleansing enemata are given for keeping the lower bowel free, as the babies seem better able to take and retain their feeding. After the Rammstedt operation there is little vomiting. If a baby cries, paregoric will keep it quiet during the healing of the wound. So far, the literature contains no account of the recurrence of the symptoms following the Rammstedt operation. Great stress is laid by some authors on the need of careful postoperative treatment, especially in the feeding of the child. Skilled after-treatment is quite as essential to good results as good surgical technic.

BIBLIOGRAPHY

- Cumston: *Inter. Med. Jour.*, April, 1911.
 Morse: *Amer. Jour. Dis. of Child.*, May, 1911.
 Shaw and Ordway: *Amer. Jour. Dis. of Child.*, Sept., 1911, p. 159.
 Richter: *Sur. Gyn. & Obs.*, June, 1911.
 Scudder: *Canad. Pract.*, Aug., 1908.
 Rose and Corless: *Manual of Surgery*.
 Cautley: *Manual of Surgery*.
 Keefe: *Trans. Amer. Assn. Obs. & Gyns.*, 1913.
 Smith: *Trans. Amer. Assn. Obs. & Gyns.*, 1913.
 Pantzer: *Trans. Amer. Assn. Obs. & Gyns.*, 1913.
 Strauss: *Jour. A. M. A.*, Oct. 31, 1914, and Oct. 30, 1915.
 DeBuys: *Amer. Jour. Dis. of Child.*, Nov., 1913.

- Downes: *Sur., Gyn. & Obs.*, 1916, xxii, 251.
 Wachenheim: *Amer. Jour. Dis. of Child.*, July, 1915.
 Morgan: *Amer. Jour. Dis. of Child.*, 1916, xi, 245.
 Weeks: *Calif. St. J. Med.*, 1916, xiv, 317.
 Sloan: *Cleveland M. J.*, 1916, xvi, 761.
 Grulee and Lewis: *Arch. d. Med. d. Enf.*, 1917, xx, 57.
 Holt: *Jour. A. M. A.*, 1917, lxxviii, 1517.
 Rammstedt: *Jour. de Chir.*, March, 1913; from *Zent. f. Chir.*, Jan., 1913, *Med. Klinik*, 1912, p. 1402.
 Rachford: *Arch. Pediat.*, 1917, xxiv, 803.

FALLACIES OF THE FACE MASK IN THE CONTROL OF THE ACUTE INFECTIOUS DISEASES

ARCHIBALD L. HOYNE, M. D.

Chief of Staff, Cook County Contagious Disease Hospital,
 Assistant Professor of Medicine, Rush Medical College,

CHICAGO

For a number of years those who have made a special study of the so-called contagious diseases have been endeavoring to teach us that these infections are transmitted, with a few possible exceptions, by either direct or indirect contact. As early as 1895 Grancher¹ was impressed with this idea and undertook to demonstrate it in the Pasteur Hospital.

The modern theory is, then, that, generally speaking, the acute infectious diseases are not air-borne and in most instances there is ample proof to support this view. However, measles, chickenpox and smallpox may be transmitted through the air to a limited extent. This seems certain in spite of any contentions on the part of extremists to the contrary. Nevertheless, by aerial transmission we do not mean to insinuate that any one of the last named diseases may take a notion to blow across the country or city or even street, infecting susceptibles. But a non-immune who goes into a room where one of these diseases exists in an active stage may surely fall a victim to it without being in either direct or indirect contact with the patient. Parenthetically it may be stated that if a patient coughed directly into one's face, causing infection in that way, such an instance would not be regarded as a case of aerial transmission. It would be one of direct contact.

It has been definitely shown in London and Liverpool Hospitals, as well as elsewhere, that measles and chickenpox cannot be absolutely controlled by the cubicle system—the arrangement whereby we have only partial partitions between the beds with the same air circulating over the

heads of all the patients. However, we do know that scarlet fever and diphtheria are two diseases in particular which can be controlled in this manner when aseptic nursing is carried out and the correct measures adhered to. On the other hand, while the contagion of measles and chickenpox is extremely diffusive, such a thing as a measles or chickenpox carrier is hardly thought of in the ordinary sense of the term. If one or the other of these two latter diseases is carried by a third person, it is purely a mechanical proposition and the distance and duration of time between the source of infection and the susceptible individual must be very brief. In such instances the infection is carried because the third person is not "clean." In all probability the contagion is then carried on the hands directly from patient to susceptible. And if it is not on the hands, then it is on the gown or clothing which has come into direct contact with the patient. At all events, it is hard to conceive that the infection is borne on the breath of the carrier.

The bearing which the preceding remarks have on the main topic of this paper will now be apparent.

It seems to me that since the publication of Weaver's² paper, in which some excellent suggestions were made regarding the use of the face mask, that that portion of the medical profession which has recently come into special association with the communicable diseases through army work or otherwise, has to some degree lost full control of its reason. In fact, it appears that fully three-fourths of the face mask enthusiasts are those whose experience in contagious diseases has been very limited. It is a very natural thought, of course, to those new in this line, to seize upon the face mask as a grand panacea for eliminating all cross-infection. However, to require all physicians, all nurses, and, in fact, practically all employes of a contagious disease hospital to wear face masks during all their hours of duty would be to my mind the height of absurdity. There are other precautions to be taken which are of far greater importance and which impose no discomfort. The foregoing statement should in no wise imply that the face mask has not its uses, and its appropriate uses have been well defined by Weaver.

Now if we analyze this subject we soon discover how inconsistent is the universal use of

the face mask in a contagious disease hospital. We say that these infectious diseases, in the main, are transmitted by direct or indirect contact. Then why should a hospital employe who does not go into a ward or room where there are patients wear a mask? Why should a head nurse or physician who walks through a corridor wear a mask? We have adopted the general assumption that these contagious diseases are not air-borne. Furthermore, working on this same basis, why should an attending physician or an interne wear a mask even if he goes into the ward or room where patients are, so long as he is not in close proximity to them?

The ideal hospital routine in the case of contagious diseases is the aseptic nursing plan. This, of course, to be properly carried out, requires a complete outfit of separate utensils for each patient, many nurses and much training. The same general precautions which are resorted to in an operating room to avoid infection must receive minute attention here in order that no infection is carried *from* the patient. The only difference in technique is in the reversal of direction in which the infection may be carried—in the operating room to the patient, and in the contagious disease hospital away from the patient.

Nevertheless, what is probably the chief factor of all in the prevention of crossed infections can be easily adopted. I refer to the care of the hands of all attendants. Clean hands will not convey an infectious disease from one patient to another. Moreover, they will not be the means of conveying a disease to the attendant. Stop and think how many times a day you rub your hand across your mouth or nostrils, and see how easily infection may occur in this manner.

After handling a patient with a communicable disease the hands should always be scrubbed with plenty of soap and running water. Disinfecting solutions are seldom required. At the Cook County Contagious Disease Hospital it has always been my custom to wear rubber gloves when examining patients. The rubber surgical gloves can be more readily and more thoroughly cleansed in some solution when running water is not easily available.

It has been stated that at the Durand Hospital following the adoption of the face mask,

fourteen cases of epidemic meningitis were cared for in 1917 without any nurse or attendant becoming infected. I would much prefer to attribute such a result to good nursing technique rather than to the wearing of face masks.

In considering the question of face masks there are some very interesting results to be noted at the Cook County Contagious Disease Hospital. This institution, a department of the Cook County Hospital, has a maximum capacity of about 300 beds. Its buildings are not of modern hospital construction. There are a few small rooms, small and large wards. The wards accommodate from five to twenty-five patients. There are no cubicles. The hospital receives practically all classes of contagious diseases with the exception of smallpox. Scarlet fever, diphtheria, measles, chickenpox, mumps, whooping cough (rarely), erysipelas, epidemic meningitis, and poliomyelitis are all included. This hospital treats annually from 1,600 to upwards of 2,000 patients. The excellent results obtained are due chiefly to the high standard of nursing service provided.

In 1917 we included among our patients at the County Hospital sixty-six cases of epidemic meningitis and 428 cases of poliomyelitis. Neither nurse, physician nor employe of any nature contracted either of these two diseases, yet none of the hospital attendants was masked except in one or two isolated instances where the wearing of a face mask was optional. It may further be said that of approximately 600 cases of poliomyelitis cared for in the wards during the past two years there has not been one single instance of a crossed infection. To be absolutely accurate, it must be said that there was one patient who occupied a separate room with a special nurse where the question of a crossed infection was a subject of dispute. This instance furnished the nearest approach to the occurrence of a crossed infection, and this particular patient was not in a ward.

For more than four years past there has not been a maid, orderly or any similar employe in the contagious disease department of the Cook County Hospital who has contracted a contagious disease. And among the nurses and internes the number of infections has been extremely small. The service of the internes in the contagious disease department is one month, while

most of the nurses are graduates and their positions permanent.

We consider such results as the foregoing good. In fact, it is evident that there could be little improvement in the particular respects referred to. But we do not assign our degree of success in controlling cross-infections to the fact that no face masks were worn. We believe that what has been accomplished has been accomplished through good nursing, including the care of the hands.

There is no doubt that under certain conditions the wearing of a face mask is a most excellent precaution, and it is not my intention to ridicule its use. When examining throats or taking cultures or doing any variety of work about the patient's face, an interne or nurse will make no mistake in wearing a face mask.

It has been reported³ that at one of the army cantonments face masks are worn by the patients when they go outside their cubicles. This seems to be a most reasonable idea, but the question might arise as to what care the face mask receives by the patient when it is not in use. Also, how often are clean masks provided? And still more important, what care is taken of the hands that handle the mask? The plan might prove of value or be valueless or even still less. And with such a procedure in vogue, the wearing of a face mask might produce a very dangerous degree of mental security so that ordinary care regarding the spreading or acquiring infection might be neglected.

Where aseptic nursing cannot be carried out in all its details in a contagious disease hospital, the following precautions can at least be taken:

1. Always scrub hands with soap and running water after handling patient. If running water is not at hand, it is advisable to wear surgical rubber gloves, which are more easily cleansed.

2. Have a separate gown to wear for handling each patient, if possible, but at all events always change gown worn when in contact with patient having one disease before coming in contact with a patient suffering from a different disease.

3. All hospital employes of every character who have a positive Schick should be actively immunized by the toxin-anti-toxin (T. A.) method.

4. Nurses and physicians coming into close contact with patients should have nose and throat

cultures made at least twice a month to eliminate the possibility of being carriers.

5. No nurse with enlarged or infected tonsils or with carious teeth should be permitted to serve in a contagious disease hospital until the defects have been remedied.

6. Before attempting any examination or work of any character about the nose or mouth of a patient, it is advisable to put on a face mask.

7. In order to impress upon new nurses the essentials of aseptic nursing, it might be well to require them to serve a sort of probationary period of perhaps a month, during which time the wearing of face masks would be obligatory throughout their hours of duty. This same idea could be employed as a disciplinary measure requiring nurses to be masked for some definite period when crossed infections occurred among patients under their care.

The management of any contagious disease hospital which adopts the compulsory wearing of face masks for all its employes is simply making a confession of inefficiency on the part of its nursing or medical staff. Good nursing, cleanliness and care will accomplish far more than poor nursing, carelessness and a face mask in the control of the communicable diseases.

25 E. Washington St.

BIBLIOGRAPHY

1. Richardson, D. L.: Hospital Management of Contagious Diseases, Jour. A. M. A., LXI, p. 1882.
2. Weaver, G. H.: The Value of the Face Mask, etc., Jour. A. M. A., Jan. 12, 1918, p. 76.
3. Capps, J. A.: A New Adaption of the Face Mask, etc., Jour. A. M. A., March 30, 1918, p. 910.

SURGICAL TREATMENT OF UNILATERAL RENAL TUBERCULOSIS: IMPORTANCE OF EARLY DIAGNOSIS*

HERMAN L. KRETSCHMER, M. D.

Assistant Professor Surgery, Rush Medical College; Urologist, to Presbyterian Hospital; Genito-Urinary Surgeon to Alexian Brothers Hospital; Junior Surgeon to Children's Memorial Hospital.

CHICAGO

Although the question of the surgical treatment of renal tuberculosis has been pretty definitely decided, at least by those who are most competent to decide such questions, there are still many physicians who are unaware of the fact that the best form of treatment for renal

*Read by title at the Sixty-eighth Annual Meeting of the Illinois State Medical Society at Springfield, May 22, 1918.

tuberculosis is surgery, and, therefore, they cling to the medical treatment of these cases. While under certain circumstances one may resort to the use of tuberculin, fresh air, hygiene, etc., in order to fortify the patient before operation, this must not be construed as meaning exclusively medical treatment. This form of treatment, in other words, should not be carried to a point beyond where surgical treatment, which very often is the only remaining hope of the patient, must be refused. For a time it was advised to treat all patients with tuberculin before operation, but this suggestion finds few adherents today.

In only one other feature of urological surgery does one meet with the distressing and hopeless outlook that one so often sees in urinary tuberculosis, and that is, in carcinoma of the bladder and prostate. The suffering and agony of a patient with an extensive tuberculosis of the bladder secondary to a tuberculosis of the kidney is most distressing and painful to see, especially if one contrasts such a patient with the patient who comes in early with just beginning vesical symptoms. Such a patient can be restored to complete health and perfect bladder function as a result of early surgical intervention. It is altogether too frequent an occurrence to have patients come in with an extensive tuberculosis of the kidney and bladder, giving the usual history of medical procrastination and errors of diagnosis due to lack of thorough clinical investigation. If a possibility of tuberculosis be thought of, a presumptive diagnosis can be made much more frequently than is generally supposed. Instead of even thinking of the possibility of tuberculosis, many of these patients are unhesitatingly placed in the great class of either cystitis or nephritis cases, because of the presence of pus or albumin or both in the urine. If the general practitioner, and it is he who most frequently sees these cases first, will bear in mind the possibility of tuberculosis in each case of cystitis that does not yield within reasonable time to the usual treatment for cystitis, many more early diagnoses would be made and hence an increasing percentage of better end-results would be obtained.

It is surprising to see the various diagnoses that are made other than the correct one. In women the diagnoses of cystitis and nephritis are not made as often as they are in men: The diagnosis of uterine or ovarian trouble is made and the

patient operated upon. Many of our cases have had operations upon the pelvic organs or appendix without obtaining any relief or cure of their symptoms. Many times in men because of a history of bladder distress a diagnosis of chronic gonorrhea is made and these patients subjected to all forms of needless instrumentation, such as bladder irrigation, passage of sounds, and the treatment of the deep urethra with the endoscope. If one bears in mind that in nearly all these cases the diagnosis of genito-urinary tuberculosis is possible without resorting to the use of special instruments or equipment, and that each case of frequent urinations associated with pus in varying amounts in the urine should be considered as a case of renal tuberculosis until it is proven otherwise, then the number of cases that miss being recognized will be very small instead of as it now is, very large.

Frequency of urination associated with other evidences of tuberculosis should immediately arouse our suspicions that we are dealing with a case of urinary or genital tuberculosis. Evidences of glandular tuberculosis, such as scars in the neck, the presence of evidence leading to, or the history of bone or joint tuberculosis, a nodule in the prostate or in the seminal vesicles, should at once point out the way from a study of the gross clinical evidence easily obtainable. The next step to establish this fact would be the demonstration of tubercle bacilli in the urine. Their presence would clinch the diagnosis with but rare exceptions, to be discussed below. The fact that tubercle bacilli have been found then calls for study in order to discover the location of the tuberculous process. This, of course, means the employment of the finer instruments of examination, such as cystoscopy, ureteral catheterization, cultures of the urine, stains for organisms, animal inoculation, Roentgen-ray, etc.

The demonstration of tubercle bacilli in the urine is generally believed to be a difficult task and one that is only rarely rewarded by finding the organisms present. This is absolutely an erroneous conception in the minds of many men, doubtless due to the faulty teaching of several years ago, when it was taught that tubercle bacilli could only very rarely be demonstrated in the urine. While no rule is infallible, as a broad statement I wish to say that this is absolutely wrong. Tubercle bacilli can be demonstrated

much more easily than is believed. The great difficulty is due to the fact that the search for tubercle bacilli takes time—and lots of it.

If, however, we cannot demonstrate the tubercle bacilli and the clinical symptoms and signs lead one to a diagnosis of tuberculosis, one may then resort to the use of the guinea pig. This is generally considered a "dead-sure" way and an easy way to pick up the organisms. That this method is not free from possible sources of error has been our experience. In the past year we have twice failed to find evidence of tuberculosis in the guinea pig, although the patients were suffering from renal tuberculosis, as proven by the demonstration of tubercle bacilli in the urine and furthermore, the kidney removed by nephrectomy showed the presence of tuberculosis. So that while the guinea pig is a very valuable method of demonstrating tubercle bacilli in the urine, one should not forget that this method, like any clinical method, has a certain percentage of error. In other words, physicians often have a sense of false security. They will say a patient has not tuberculosis because the guinea pig failed to show tubercle bacilli. In several instances this belief has led to wrong diagnoses and the patients were treated for other conditions and as a result the bladder process became more and more extensive. In but three cases of renal tuberculosis did we fail to find the bacilli in the urine. In one the clinical diagnosis of renal tuberculosis was made from the clinical symptoms and cystoscopic findings, although the autopsies of the guinea pigs were negative. In another instance we failed to demonstrate tubercle bacilli in the stained slides, although a cystoscopic diagnosis of renal tuberculosis was made, and proved at operation.

The use of the cystoscope and ureteral catheter often gives us information which is suggestive of the side involved. The typical tubercles in the bladder and the ulcerating ureteral orifice are familiar to all of you and need no further discussion. The demonstration of the origin of pus and tubercle bacilli from one side and the presence of clear urine from the opposite side will establish the diagnosis.

Difficulties in Diagnosis. In the cases of closed tuberculosis pyonephrosis, pus and tubercle bacilli do not reach the bladder, so that the urine in this group of cases is perfectly clear and sparkling, and the diagnosis is accordingly diffi-

cult. These cases because of circumstances have a good bladder capacity, so that repeated cystoscopic examinations and study can be carried out very easily.

There is another group of cases, however, in which both pus and tubercle bacilli may be demonstrated in the urine, and because of a contracted bladder cystoscopic examination cannot be carried out. This is the group of cases that generally come in late in the course of the disease and at a time when the bladder is enormously contracted, so that distention cannot be obtained. The mucous membrane is red and often shows the presence of many tuberculous ulcerations. Often one is not able to obtain the desired amount of distention even under deep anesthesia, so that ureteral catheterization is impossible, and hence no diagnosis of the well and sick side can be made. Often the diseased ureteral opening can be seen and catheterized, still leaving one in doubt about the presence and function of the kidney to remain.

If I suspect tuberculosis but cannot demonstrate the bacilli, I have resorted to the procedure suggested by Buerger, namely, to excise with an operating cystoscope some of the edematous mucous membrane and subject this tissue to histological diagnosis. In one of our cases this procedure was carried out at a time up to which we were unable to demonstrate tuberculosis, which was done later.

Roentgen-Ray Diagnosis. The Roentgen-ray in the diagnosis of renal tuberculosis has not become a routine established procedure. This is apparent from the scarcity of the literature upon this subject as well as case reports. The late Dr. Krotoszyner, of San Francisco, reviewed the literature on this subject a few years ago and found it very scant. He came to the conclusion that roentgenography may be of definite value in the diagnosis of renal tuberculosis when other clinical methods fail. He was also of the opinion that the differential diagnosis of nephrolithiasis and renal tuberculosis by roentgenography is feasible in the presence of tubercles and renal caseation. He quotes Casper, Forseele, Hofmann, Holland, Cole, Proust and Infroid as having written articles bearing on this subject. Doubtless this lack of literature is in the main due to the fact that the cases of renal tuberculosis that come to the urologist with symptoms can be diag-

nosed by means of the cystoscope and ureteral catheter.

There is a small group of cases, however, in which cystoscopy for various reasons as above discussed cannot be carried out. It is in this at present small group of cases that one may or should resort to the roentgen ray as an aid in establishing the diagnosis. This method has served me in about three cases.

Exploratory Operation. It is but rarely that one must resort to an exploratory operation. Still one may occasionally meet a case in which this must be used as a last resort.

Tubercle Bacilli in the Urine. While thus far I have considered the methods which help to establish the diagnosis, there is another important aspect of this subject and one that has received but scant attention and one that is deserving of serious clinical study. It is not my object to discuss in detail the many phases and significance of tubercle bacilli in the urine with reference to the possibility of the normal kidney being able to excrete tubercle bacilli and yet this is a question that has not received enough attention.

Clear Urine. It is generally believed, and rightly so, that a patient suffering from renal tuberculosis has as one of the signs upon which the diagnosis is based cloudy urine, due to the presence of pus in the urine. While this is in the main true, it is not an infallible sign. By this I mean that the opposite condition may be true, namely, that a patient may be suffering from a well advanced tuberculosis of the kidney and yet the urine may be free from pus, that is, the patient presents himself with clear urine. This can occur in the cases in which the ureter of this side is completely occluded, and hence, the pus and bacilli will not be passed in the urine. I do not refer in this group of cases, to the so-called closed tuberculous pyonephrosis, but to the cases in which the ureter of this side is patent. Attention is called to this point for the purpose of bringing before you the possibility of the patient's having an advanced renal tuberculosis and yet at the time he presents himself for examination the urine may be clear and free from pus. This phenomenon occurred in one of our cases in which the patient presented himself with a unilateral pyuria of high degree. The tubercle bacilli were demonstrated in the urine in the

smear. The patient refused operation and went to his home in the country. He came back three months later with clear urine free of pus. A pyelogram showed much destruction of the kidney parenchyma and our previous diagnosis of renal tuberculosis was verified when the kidney was removed by operation. This fact is mentioned to show that, although a patient may have an advanced renal tuberculosis, the urine may be free of pus at the time he presents himself for operation.

Another serious and important problem that is often difficult to interpret is the presence of the tubercle bacilli in the opposite, but supposedly well kidney. In cases in which the clinical signs, cystoscopic examination, a study of the ureters, and the symptoms permitted of a diagnosis of unilateral tuberculosis, tubercle bacilli have been found from the ureteral catheter specimens of the opposite or supposedly well side, as demonstrated by guinea pig inoculations. This question has recently received the attention of Beer, who cautions against the hasty removal of kidneys because of the presence of tubercle bacilli in the face of evidence involving both kidneys, and especially when there is a focus of tuberculosis in the genital tract. As a possible source of error he mentions the following three:

1. As an excretory phenomenon.
2. As the result of a reflux up the ureter of bladder fluid containing bacilli.
3. As gross contamination from cystoscopes or catheters despite the greatest care.

While I have never had this problem to meet, it would seem to me that one of the easiest ways to obtain information would be by resorting to a pyelogram.

Treatment of Renal Tuberculosis. Let us briefly consider the so-called medical treatment. What, if any, are its advantages over the surgical treatment and what are the results accomplished? It would seem that in order to define their position the adherents of medical treatment should bring forth proof that renal tuberculosis can be cured. There must be of necessity a great deal of care exercised in stating that a patient is or has been cured of renal tuberculosis. What are the criteria upon which we rely in proving that a patient is cured of renal tuberculosis? First, the disappearance of bacilli from the urine. While it is generally believed that the tubercle bacilli are

difficult to demonstrate, this fact is not true. While it may be possible that following medical management the bacilli may be correspondingly difficult to find, repeated examinations and failure to find them by any means, does not allow one to come to the conclusion that the patient has been cured by this or that form of medical treatment. Then, if the guinea pigs fail to show the presence of tubercle bacilli, one can assume that the case is cured?

Second, the diminution or even complete disappearance of pus from the urine may be only a transitory condition. In one instance at least I had the opportunity of seeing a very definite renal tuberculosis without pus in the urine.

Third, the diminution or disappearance of the bladder symptoms may be a temporary condition only. Those of you who are in position to see large numbers of these cases have doubtless had a similar experience: Keyes has reported two cases with the disappearance of symptoms for two years in one case, and in another case for six years. In both cases it was necessary to remove the kidney at the end of the above-mentioned periods of time because of a lighting up of the symptoms. Gauthier's cases were demonstrated as cured at one of the French Urological congresses. The animal inoculations were negative, they were unable to find tubercle bacilli in the urine, and yet within six months there was a return of symptoms so severe that nephrectomy was done. Legueu does not favor tuberculin treatment. He has operated upon patients suffering from renal tuberculosis who were supposedly cured by tuberculin and the removed kidney showed the presence of extensive tuberculosis. It would appear that such case reports, though only few in number, are nevertheless strong proof of the failure of the tuberculin treatment. Pousson reports a case of the disappearance of symptoms for eighteen years and then their return.

If clinical cures are not obtained, is there any anatomical proof that renal tuberculosis can be cured? I think not. In the symposium on renal tuberculosis at the meeting of the American Urological Association held in 1916, E. L. Young, Jr., who dwelt on the subject, said that in the literature on renal tuberculosis he was not able to find any case which showed positive proof of the disappearance of renal tuberculosis. In the same

symposium George Dock, who dwelt on the clinical and pathologic possibility of a spontaneous healing in renal tuberculosis without destruction of the kidney, said that his impression from a fairly extensive study, was that true healing of renal tuberculosis is rare. This lesion rarely tends to heal under general treatment, but has a strong tendency to complete destruction of the kidney, in which, however, the disease may be held in for a time with constant danger of a local or general infection at all times. He summarizes as follows:

"Pathologically the possibility of spontaneous healing in tuberculosis of the kidney must be admitted, but it cannot be looked for as a probability in actual practice. Dependence upon general measures of treatment is dangerous on account of the constant tendency to a progressive destruction of the kidney tissue and a descending infection."

If medical treatment as a cure for renal tuberculosis is a failure, is one justified in using this as a temporary measure before operation? Recently we have had occasion in one or two instances to postpone surgical treatment because of an acute complicating condition in the lungs, which necessitated sanitarium treatment, tuberculin, etc., but this was done with the full understanding that at the end of the regime the patient would be subjected to nephrectomy and the treatment was not carried out in lieu of nephrectomy. It seems to me that that is where the danger comes in.

Nephrectomy. From the foregoing remarks it is evident that the treatment must be surgical in all cases of unilateral renal tuberculosis and the earlier that the treatment is instituted, the better for the patient, provided, of course, that the second kidney is present and its function has been established. I agree with those who state that nephrectomy should be carried out just as soon as the diagnosis is made. The objects of nephrectomy are two-fold. First, to remove the infected kidney, and second, to relieve the patient of his or her bladder distress. In other words, to remove the infected kidney with the least possible risk and to give the patient the best possible end-result. I will not burden you with the technic, except to say that the usual oblique incision is made. The incision should be long enough to give a good exposure. The kidney is removed

as rapidly as possible without any unnecessary trauma. The ureter is removed as far as is necessary and all perirenal fat that can be readily removed is removed.

Mortality. The average mortality rate for nephrectomy for renal tuberculosis has been variously stated as from 2 to 4 per cent. While it is a question of immediate importance to the patient, the question of the end-result, namely, the relief of the bladder symptoms, is only second in importance. Experience has shown that by far these results are not all that can or should be desired, as is evident from a study of the post-operative histories of these cases. While in the largest majority of cases there is relief of the painful urinations, the frequency persists and in many instances is just as annoying after the operation as before. It may be said that the symptoms persist after operation as long as they are present before operation. It is evident, therefore, that in order to give the patient the best end-result, namely, complete relief of the bladder distress, the diagnosis must be made early and operation performed as soon as the diagnosis is made.

A STUDY OF THE PHYSICAL CONDITION OF 800 REGISTRANTS IN THE SELECTIVE DRAFT OF 1917*

CHARLES B. JOHNSON, M. D.
CHAMPAIGN, ILL.

The first step in the selective draft of 1917 was taken when, on June 5 of that year, every male resident of the United States and its dependencies between the ages of 21 and 31 was required to register his name, date of birth, place of residence, citizenship and certain other facts pertaining to his personal history.

In round numbers 10,000,000 young men complied with this requirement, all of whom have since been known as registrants.

This, the first step in the draft, acted somewhat like a dredge net in that it caught all classes, all kinds and all conditions in its meshes. When I was a boy, in company with other lads we sometimes went seining in the creeks and sloughs of south central Illinois, and various were the things we would land on the bank of the stream. Among these were craw-fish, tad-

poles, turtles, bullfrogs, water snakes, sticks, stones and all too seldom for our wishes, cat-fish, sun-perch, "goggle-eyes," and now and then a pike, that gamest of fish.

Not unlike my seining experience were the results of the 1917 registration, which brought in the limelight of official knowledge the aristocrat and the vagabond, the preacher and the criminal, the capitalist and the pauper, the banker and the butcher, the occupant of the brown-stone front and the jail-bird, the handsome and the homely, the tall and the short, the lean and the fat, the highbrow and the mongrel, the educated and the unlettered, the wise and the foolish, the fighter and the pacifist, the Caucasian and the Ethiopian, the native and the foreigner, the white man, the black man and the yellow man from the other side of the world; the blind, the deaf and the dumb, the man with a glass eye and the man with an amputated nose, the man without teeth and the man who was voiceless, the man with flat feet and the man with no feet at all, the man who had lost his toes and the man who had too many toes, the man with a game leg and the man with but one leg, the man with a curved spine and the man with a dislocated hip, the man with but one arm and the man with an ankylosed elbow, the man without fingers and the man with redundant fingers.

Such, in part, was the draft of 1917, all races, all colors, all sorts, all conditions, but all between the ages of 21 and 31 and all under the protecting folds of the glorious stars and stripes.

To eliminate the fit from the unfit, the desirable from the undesirable, the available from the unavailable, nearly 5,000 local exemption boards were appointed to have jurisdiction in the localities where the members resided. Upon each of these boards are three supposedly representative citizens, one of whom is required to be a medical man.

In the latter part of June of last year I was apprised of my appointment as a member of Local Board No. 2 for Champaign County. Our board was organized and after some weeks of necessary preliminary work we issued a call for 100 registrants to appear for examination on August 7, another 100 on August 8, and a third 100 on August 9.

Meanwhile the following physicians had been selected for assistant medical examiners, viz.:

*Read at the Sixty-eighth Annual Meeting of the Illinois State Medical Society at Springfield, May 22, 1918.

Drs. E. L. Cavanee, C. S. Davis, H. C. Kariher, E. A. Kratz, C. H. Spears and H. V. Wilson, the last two eye and ear specialists. Later Dr. Kariher was commissioned in the Medical Reserve Corps and is now in France, and Dr. Wilson was appointed a member of the District Medical Advisory Board.

The medical force was organized into three teams, and all eyes and ears out of the normal were promptly referred to our specialist assistants.

We had at our disposal three large, well-lighted rooms, and in each of these curtains were so arranged that each registrant could undress and dress in private.

In round numbers 3,000 young men registered in our local district in the draft of 1917, and as we have no mines and no factories to speak of, our registrants for the most part came from the farms, the work shops, the business houses, the several professions and the student body of the University of Illinois.

While the physical examinations began on August 7 of last year, they have continued till the present time, intermittently, however, in the past three months.

In round numbers 800 men were examined, and of these 618, 77.5 per cent., were found fit for military service, and 182, or 22.5 per cent., were found unfit. Of the 182 unfit, 46, 5.75 per cent., were recommended for limited service, and 136, or 17 per cent., were rated unfit for any character of military service.

Of ailments rendering the men unfit for military duty there were: Amputations of leg, 5; of arm, 1; of foot, 1. Ankylosis of ankle, 3; of knee, 1; of hip, 1. Arches broken, 1. Arthritis of knee, 1. Blindness, total, 1. Blind in one eye, 2. Cartilages, loose, in knee, 1. Chest, flat, 1. Chest injury, 1. Chorea, 1. Deafness, total, 1. Deafness, partial, 5. Dislocation of clavicle, 3; of elbow, 1; of hip, 3. Epilepsy, 1. Epispadias, 1. Fistulas, rectal, 1. Feet, injury of, 1. Female type with undescended testicles, 1. Fingers, loss of, 4. Fingers, contracted, 1. Fracture of elbow, 1; of hip, 2; of legs, 3; of patella, 1. Goiter, 1. Hammer toes, 1. Hemorrhoids, 1. Hernia, inguinal, 14. Hydrocele, 1. Heart trouble, including cases of aortic and mitral regurgitation and aortic and mitral stenosis, 19. Keratitis, 1. Liver, enlargement of, 1. Mental de-

ficiency, 6. Moral unfitness, 1. Muscular contraction, 1. Muscular atrophy, 3. Nephritis, 1. Nose, loss of, 1. Paralysis, result of poliomyelitis, 2. Phlebitis, 1. Spinal curvature, 4. Spinal injury, 1. Stomach, ulcer of, 1. Strabismus, 1. Tachycardia, 4. Teeth, loss of, 4. Toes, loss of, 1. Trachoma, 1. Testicle, undescended, 2. Tibia, ulcer of, 1. Tuberculosis, symptoms of, 10. Varicocele, extensive, 2. Vision, defective, 23. Weight, under, 6. Weight, over, 1.

The 46 registrants recommended for limited service had ailments as follows: Ankylosis of elbow, 1; of fingers, right hand, 2. Arches broken, 3. Atrophy muscles of left leg, 1. Blind in one eye, 1. Marked dullness of lungs, 2. Goiter, 1. Hammer toes and partial ankylosis of right ankle, 1. Hearing, 2. Hernia, inguinal, 6. Hernia, ventral, 1. Injury of knee, 1; of great toe, 1. Loss of toes, 1. Mitral regurgitation, 1. Neurasthenia, 2. Overweight, 1. Paralysis, left arm, 1. Result of operation for appendicitis and stone in kidney, 1. Stammering, 1. Tachycardia, 1. Underweight, 7. Varicocele, 2. Vision, defective, 6.

Some of the registrants had more than one of the disabilities named above; for illustration, I recall a student of the University of Illinois who was underweight, had a double hernia and very poor vision. By the way, I was struck with the relatively large number of students with defective eyesight. On the other hand, the students were much more active and supple than the young men from other walks of life—the men from the farms were especially lacking in agility. College athletics naturally has much to do in rendering the university students relatively agile.

The heaviest man we found weighed 254 pounds; the lightest, 97 pounds. The tallest registrant measured 6 feet 3 inches; the shortest, 4 feet 8.5 inches—and this little man was ideal, what there was of him. Both of these men appeared for examination on the same day, but unfortunately we did not have opportunity to place them side by side.

On another examination day we were, however, more fortunate, when one man 6 feet 2.5 inches in height appeared at the same time with another a little below 5 feet. The tall man reached out one arm at right angles, the short man stepped under, and his head did not touch the outstretched member.

The greatest chest expansion was 6 inches and the least, 1 inch.

Of the first 500 registrants examined an average was computed of height, weight and chest expansion. This was found to be, in height, 5 feet 8.75 inches; in weight, 139.75 pounds, and in chest expansion, 3 1/9 inches. In other words, this composite man was 5 feet 8.75 inches tall, weighed 139.75 pounds and could expand his chest 3 1/9 inches. Certainly a good average man.

When we began our work last August we made it a rule to strip every registrant and examine him without reference to any glaring unfitness he might show at first sight. Acting under this rule, I stripped and as carefully as time would allow examined a man who was totally blind; and at another time stripped, weighed and looked over the anatomy of a very filthy negro who wore an especially crude, long-used and malodorous wooden leg.

My work has afforded me some pleasing, much interesting, and no little amusing experience. One day a well dressed, gentlemanly young man with a southern accent called on me at the examination rooms and explained that he had registered at San Antonio, Texas, had sent for permission to be examined at Champaign and was anticipating a reply soon. During the interview it came out that the young man was a violinist in one of our local orchestras, and when he took his leave I, more than half in jest, said, "When you come back, bring your violin, for I am very fond of that kind of music." In a few days the young southerner appeared at the examination rooms with a violin case under one arm and his transfer card in his hand, and after a courteous salutation took out his violin and began playing *Suwanee River*, then followed in due succession, *My Old Kentucky Home*, *Old Black Joe*, *The Last Rose of Summer*, *Sweet Home*, and more of the same kind. To say that I was charmed only tells half the truth, for he played with much skill and his fine old melodies put me on a much higher plane than the one I occupied before the rich tones of his violin began to stir my senses.

The examination which followed revealed the fact that my musical registrant was an almost ideal specimen of physical young manhood, and when I told him so he seemed greatly pleased.

Upon taking his leave, he stopped at the door,

made a polite bow and said, "You cuh-tiuly have been va'y kind to me, suh, and I most hah-tily appreciate it, suh."

I recall examining an athlete, and that I might test his agility and with no thought of his training asked him to jump. "How far?" he asked. "As far as you can," I answered. What was my surprise to see him leap half way across the room, reminding me of nothing so much as a grasshopper.

In examining a man I always make it a point to put him as much as possible at his ease—to make him forget himself and the ordeal through which he is about to pass. To aid in this I not infrequently make use of some very old chestnuts. One of these often came in when the man about to be examined was directed to step behind the curtains and undress. In starting to do as requested the registrant would often ask, "Must I take off everything?" "Yes, everything but your smile," was my unvarying answer; and old and threadbare as was this reply, it never failed to put a broad grin on the countenance of the one most interested.

In testing the hearing I followed the usual course of having the registrant, at the distance of 20 feet, close one ear and repeat after me various words and numbers. Following is the routine I frequently followed: After testing one ear I would ask the man to close it by pressing on the tragus and I would then test the open ear by calling out, "ninety-five," and "ninety-five" would promptly come back in reply. "Mexico," and "Mexico" would be the response. "Germany"—"Germany." "The Kaiser"—"The Kaiser." "Damn him"—"Damn him," the registrant would answer, while a broad smile lighted up his features.

One day a solemn looking individual came before me for examination, and after testing one ear I fell into the usual routine and called out, "Ninety-five," and there came back, "Ninety-five." Then followed "Mexico"—"Mexico." "Germany"—"Germany." "The Kaiser"—"The Kaiser." "Damn him"—no response. "Damn him!"—no response. "Damn him!"—no response. After my third call the registrant with a very serious visage and in solemn tones said, "I hear you, sir, but my religion will not admit of the use of such language as that."

Like other boards, we examined a number of

men who had registered elsewhere, and on the other hand some of our men had gone to other localities and took their physical examinations there, and the reports on these are embodied in the paper I am now reading before you. The great majority of these outside reports were evidently made by thoroughly competent examiners. However, I recall one in which the man examined was said to have a discharge from his right *year*—and it was spelled y-e-a-r. Further than this, the physician who made the report lives in a university town. Not, however, a university town within the borders of Illinois, I am happy to be able to say.

We found very few attempts at malingering, and so far as my personal experience went I found the great majority of the registrants absolutely frank and honest in all that pertained to their physical condition. Further than this, not a few were fairly bubbling over with patriotism.

I hesitated a good deal before accepting a position on our local exemption board. But finally realizing that this would afford me an opportunity to "do my bit," I made up my mind to do this particular *bit* to the best of my ability; and really it was about the only duty I could render, as I am long past the age-limit for medical military service.

I approached the work with more or less dread and anxiety, but the sequel has shown my fears to be groundless and I have greatly enjoyed all that my duties have involved. It has been a rare opportunity to study "the human form divine," to see human nature in some of its many phases, and finally has been a real school in physical diagnosis. From the physical side we *naturally* had all shapes, all sizes and all sorts. *A few, a very few* were so lean and skinny, their *muscles* so soft and flabby and their limbs so thin and dangling, their shoulders so drooping, their breasts so caved-in, their scapulae so prominent that one could but think, "How fortunate that such as these can have clothes to hide their nakedness."

On the other hand, there were many with such perfection of form, such sturdiness in stature, such shapeliness in body and limb, that it seemed almost a sin to cover with clothes such ideal specimens of manly beauty.

By the way, one of the most perfect men physically that came under my eye was a Methodist

minister, who, of course, could not be put in military service.

And now, in conclusion, may I say that although I count myself a patriot among patriots and stand for the most energetic prosecution of the war possible, yet when I think of these ideally vigorous young registrants with their bright eyes and acute senses, their fine complexions and comely features, their deep chests and broad shoulders, their manly forms and well-rounded limbs, all made in the image of their Creator, all in the pride and glory of young manhood, and all the fittest of the fit to become the fathers of the succeeding generation—when I think of how the light in these bright eyes may be put out by the enemy's missiles, of how their supple and shapely limbs may be torn and mangled by his shot and shell, and of how the life in these fine bodies may be smothered and quenched out forever by his deadly gases—when I think of all this mutilation and destruction of man, of man, the finest and noblest piece of the Creator's handiwork, I am driven to exclaim, what a hellish thing is war!

THE CIVIL ADMINISTRATIVE CODE OF ILLINOIS AND THE MEDICAL PRACTICE ACT*

FRANCIS W. SHEPARDSON

Director of Registration and Education,

SPRINGFIELD, ILL.

The administration of the Medical Practice Act in Illinois is now under the jurisdiction of the Department of Registration and Education. This Department is one of nine under what is known as "The Civil Administrative Code." The code, which was adopted by the legislature of the State in the spring of 1917, became operative on July 1, 1917. The dominant principle pervading it is that of centralization of administrative functions and localization of responsibility. Inasmuch as efficiency in the enforcement of the Medical Practice Act is, to a large degree, dependent upon powers granted by the code, it may not be out of place to consider for a short time this new, unusual and

*Read before the Sixty-eighth Annual Meeting of the Illinois State Medical Society at Springfield, May 23, 1918.

attractive administrative machinery for state government.

The present constitution of the State of Illinois became operative in 1870. Although amendments have been made to it from time to time, its main provisions are substantially as when it was first adopted. The astonishing changes which have come in country and commonwealth during a half century of tremendous growth have led to the creation in Illinois from time to time of special boards and commissions, designed primarily to relieve over-burdened constitutional officers from tasks which it was physically impossible for them to perform. In practical experience these officers, boards and commissions, eventually more than one hundred and thirty in number, tended to become semi-independent administrative factors in government, each with its own headquarters, officers and equipment. Almost inevitably conflicts of jurisdiction resulted and with them, naturally, much duplication of effort and expenditure.

About ten years ago, the attorney general of Illinois, in a moment of discontent with existing conditions, gave utterance to an opinion that a satisfactory and effective government in the state could never be obtained until the overlapping of authority resultant from the distribution of the powers of administration among many officers, boards and commissions were ended. This observation, possibly, was the first definite expression which led to the adoption of what is now known as the Civil Administrative Code.

It was not until 1913, however, that an efficiency and economy commission was appointed. It consisted of four senators and four representatives, who were authorized to make an investigation of all departments of the state government, including all boards, bureaus and commissions which had been created by the general assembly, with a view to provide a more perfect system of accounting and to combine and centralize duties. It was hoped that this study would lead to the rejection of much useless machinery and to a reorganization of the state government, with the definite aim of greater efficiency and economy in administration.

The committee was composed of some of the ablest members of the two houses. After organizing and outlining the undertaking in Aug-

ust, 1913, the committee employed as director Dr. John A. Fairlie of the political science department of the University of Illinois. Under his leadership, the advice of a large number of officials and other citizens was taken, after many hearings at which testimony was presented from almost every possible point of view. As a result of the committee's investigations, there was published a report of 1,050 pages, generally recognized as one of the most remarkable documents in the history of state government in this country.

Governor Deneen, and following him, Governor Dunne, called attention to the proposition in their messages, but the gubernatorial campaign of 1916 was made the occasion for placing the code project before the people for general consideration and discussion. Colonel Frank O. Lowden made its championship one of the prominent planks in his platform. Immediately after the people had chosen him to the high position of governor, he took active measures to make the idea a reality. In his inaugural address he emphasized the importance of the administrative reform. He secured the co-operation of many members of the legislature. He devoted long hours of study to the problem. Largely because of his earnest advocacy, the Civil Administrative Code became law.

Its salient feature, as has been stated, is the centralization of the various governmental agencies, with the exception of the Civil Service Commission and certain temporary boards, into the nine departments of Finance, Agriculture, Labor, Mines and Minerals, Public Works and Buildings, Public Welfare, Public Health, Trade and Commerce and of Registration and Education. For each of these departments there is an executive officer, called a director, who is required to devote his entire time to the state work. He is provided with such subordinate assistants as are deemed necessary, the number varying in the different departments.

The code has now been in operation for nearly eleven months. Experience has amply justified those who so strongly urged the administrative reform. The new machinery has worked far more smoothly than its most sanguine supporters had hoped. Naturally, some difficulties have presented themselves. The period of operation is as yet too short to warrant final judgment. Defi-

cits from previous years had to be paid this year and imperative expenditures for long-needed repairs and improvements had to be met. These have combined to handicap the financial authorities. But all who are actively associated in the administration confidently believe that, if given a chance for a fair trial, the code will soon prove its value by substantial financial savings as well as by increased efficiency. The Department of Finance is the keystone to the structure. Its work is certain to show gratifying results. Its officers are giving the most painstaking scrutiny to all outlays, and many kinds of waste heretofore ignored are being effectively checked. They are studying the expenditures of every part of the state government with the purpose of preparing a detailed budget under which the state's business may be conducted in a systematic manner.

Perhaps it ought to be said that the centralization of administration under the code is not complete, because, outside of its jurisdiction, there are certain so-called constitutional offices, such as those of the secretary of state, the auditor of public accounts, the state treasurer, the superintendent of public instruction and the regents of the state university. Should the campaign for a new constitution, adapted to the needs of a great state such as Illinois has grown to be since 1870, be successful, one outcome of a constitutional convention might well be the inclusion of the duties of these officers under similar proper departments. In actual practice, however, there has been complete harmony between the constitutional officers and the code ones, so that the entire governmental machinery at Springfield has been working smoothly in the direction of notable administrative achievement.

Limitations of time do not permit further consideration of the code in its entirety. It is a remarkable state document. It represents a notable advance in political science. The plan of organization of each department is extremely interesting. The distribution of powers among the departments, the internal workings of the departments, and the great variety of the problems requiring administrative solution are alike attractive. The widespread interest awakened by the code throughout the country and the reports that several other states are giving serious

consideration to the adoption of a similar plan of government, are suggestive of what is in store for the one who will study carefully the thirty-seven pages of this epoch-marking legislative act.

The special concern of this society is in the administration of the Medical Practice Act of Illinois. In the reorganization scheme the licensure of physicians and midwives, formerly in charge of the State Board of Health, was placed in the Department of Registration and Education. Something about this department, therefore, may be of interest.

While the double name registration and education seems to imply divided activity, a closer survey of the powers and duties of the department shows that the thought of education is the dominant one. The word "registration" relates to the administrative work associated with all those professions and trades of whose members the state requires a license. The department has jurisdiction over about a dozen different lines of endeavor, including those of the architects, barbers, chiropodists, dentists, embalmers, horse-shoers, midwives, nurses, pharmacists, physicians, plumbers, structural engineers and veterinarians. In its main office in Springfield, it has a staff of twenty-five persons whose work is being so organized as to distribute responsibility most effectively and to secure accuracy, efficiency and promptness in administration.

The oversight of the licensing features of the activities of the department is placed in the hands of an official called the superintendent of registration. He is charged with arranging for the necessary examinations as provided for in the statutes, with furnishing of adequate assistance for the examinations, with the notification of the successful candidates, with the keeping of the records and files of certification, and with the large amount of correspondence relating to licensure in the several lines. Inasmuch as all the laws which regulate licensure provide for the evaluation of credentials, both of preliminary education and of professional training, the division of registration has among its duties the collection of the essential preliminary information about applicants and the investigation of their qualifications for examination.

So, naturally, the department must concern itself with the establishment of standards and the

approval of both the schools themselves and their courses of instruction. If the authority given by the code and by the several practice acts should be invoked to its full degree, the power of the department over schools of all grades and types would prove to be very great.

The word "education" in the department's title, therefore, does not imply an entire change of thought from that of "registration." It may, however, be taken to refer to certain types of higher education which are carried on under state auspices, and which are professional, investigational, or strictly scientific in this nature. The five normal schools which heretofore have been controlled by separate boards of trustees, are now placed under the jurisdiction of the department, with a single board of which the director of registration and education is chairman. Grouped under the department, also, are the four scientific surveys, located at Urbana, in connection with the State University, namely, the State Geological Survey, the State Water Survey, the State Natural History Survey, and the State Entomological Survey. For the study of the needs of these four surveys and the development of their work, a special advisory board of scientists, called "The Board of Natural Resources and Conservation" and representing the different fields of research touched by the surveys, has been provided, the director of the department being its chairman. The department has jurisdiction also over the State Museum, located at Springfield. For advice regarding its management there is a board composed of specialists representing the five different lines of activity with which the museum concerns itself, namely, botany, ethnology, zoology, manufacture, and museum administration.

The members of these advisory boards were nominated to the governor by the director with no consideration in mind whatever, except to secure individuals of the highest character, entirely regardless of political affiliation, whose names would carry weight wherever mentioned. The board of natural resources and conservation, for example, is composed of Profs. Thomas C. Chamberlin and John M. Coulter of the University of Chicago, both men of national reputation in their respective fields of geology and botany; Profs. William Trelease and William A. Noyes of the University of Illinois, equally con-

spicuous in botany and chemistry respectively, and Mr. John W. Alvord of Chicago, an engineer of wide reputation. On the board of museum advisors are Edward W. Payne, one of the best known and most highly honored citizens of Springfield; Messrs. Charles L. Owen and Charles F. Millspaugh of the Field Museum of Natural History; Prof. Henry B. Ward of the University of Illinois, and Mr. N. H. Carpenter of the Art Institute of Chicago. The normal school board, in like manner, is made up of selected men of exceptional fitness for their task, including such distinguished individuals as J. Stanley Brown, principal of the Joliet Township High School; Leroy A. Goddard, President State Bank of Chicago; William B. Owen, principal of the Chicago Normal College; Messrs. Frank E. Richey of La Salle; Henry A. Neal of Charleston; Elmer T. Walker of Macomb, Roland Bridges of Carbondale, Charles L. Capen of Bloomington, and John C. Allen of Monmouth, with Francis G. Blair, state superintendent of public instruction, as secretary. The department, in its administration, is greatly strengthened by its ability to command the assistance and advice of men of such pre-eminence. The magnitude of the educational work of the department, if expressed in terms of annual appropriations, is such as to make it fairly comparable with similar special departments in a great American university.

The controlling idea behind the Civil Administrative Code has been stated to be combination and co-ordination with localization of authority under responsible individuals. There is no doubt that the personnel of the directorate is a most important element in the successful working out of the plan. If the code lent itself to the machinery of political organization, and the selection of officers were made purely for partisan reasons, special fitness for a given task being made entirely subordinate, there might reasonably be fear for the result. The scope of the activities of the several departments, however, is so broad as not only to require the full time service of individuals of recognized responsibility and position, but also to present to them for solution problems demanding the highest talent, and worthy of a strong man's best endeavor.

The code specifically provides that the director of registration and education, the assistant director and the superintendent of registration

shall not be affiliated with any college or school of medicine, pharmacy, dentistry, nursing, optometry, embalming, barbering, veterinary medicine and surgery, architecture or structural engineering, either as a teacher, officer or stockholder, nor shall they hold license or certificate to exercise or practice any of the professions, trades or occupations regulated.

The reason for this restriction is apparent. Absolute impartiality and exact justice are more likely to be secured where personal interest or possible professional jealousy are absent. In the working out of the code plan there has been marked a notable change of attitude toward the law on the part of violators, whether intentional offenders or chance ones. The prospect of being prosecuted by a great department of a state government, the executive officers of which are not members of the profession involved and whose main interest in the case is that of the enforcement of the law of the state, appears to be much more feared than was the danger of trouble with members of a board connected with the same profession. This has had many illustrations since last July. There is no doubt that every practice act of Illinois has become far more effective than it ever has been, because it now has behind it the machinery, the resources and the administrative power of a state department.

Another restriction of the code provides that, whenever the several laws, regulating professions, trades and occupations which are devolved upon the department for administration, so require, certain enumerated functions and duties shall be exercised. These relate to standards of admission, curricula of schools and colleges, rules and regulations of examinations, conduct of examinations, the granting and revoking of licenses. It is definitely declared that, where the law of a profession, trade or occupation so requires, none of these enumerated functions and duties shall be exercised by the department except upon the action and report in writing of persons designated from time to time by the director to take such action and to make such report.

This restriction is a safeguard against personal inefficiency, arbitrariness, or venality on the part of the director, but it also is designed to indicate clearly the pervading idea of the code, that the duties of former state boards have passed under the administrative control of a department

under the code. The words, "designated from time to time" are important. There is no exact term of service for a member of an examining committee. The advantage of the limitation has already been shown in a number of cases, where trial revealed the fact that the individual selected was not well chosen. The objection to this plan is made, that there may be lack of continuity of policy where there is uncertainty of tenure. This is obviated by the possibility of reappointment of those whose worth has been demonstrated in actual experience. The danger in the personal appointment feature is the danger attending the entire code plan. An individual honored with selection as director of a department, or, for that matter, given any important task to perform, either will, or will not, rise to his responsibilities.

A third safeguard declares that in making the designation of persons to act for the several professions, trades and occupations, the director shall give due consideration to recommendations by members of the respective professions, trades and occupations, and by organizations therein.

Working under these general limitations, the department has been successful in establishing friendly relationships with the interested leaders of practically every one of the professions and trades coming under its jurisdiction. The practice acts have been enforced strictly. The examinations have been above suspicion. The committee members have worked faithfully and promptly, and generous commendations have come from many influential citizens who have expressed their opinion, that the laws in which they have been specially interested have been interpreted and enforced in a highly satisfactory manner.

The code provides for the medical practitioners, embalmers, and midwives, a committee of five persons, all of whom shall be reputable physicians licensed to practice medicine and surgery in this state, no one of whom shall be an officer, trustee, instructor or stockholder or otherwise interested directly or indirectly, in any medical college or medical institution. For the purpose of preparing questions and rating papers on practice peculiar to any school, graduates of which may be candidates for registration or license, the director may designate additional examiners whenever occasion may require.

Great care was taken in the selection of the first committee to work under the new plan. The

department officials cherished the idea of having a certain degree of continuity between the proceedings of the new department and those of the old State Board of Health. They wished to have the different points of view of medical organizations represented. Above all, they had an ambition to secure a group of men whose names would command respect, and who, in themselves, would be an assurance to the friends of medicine that, under no circumstances, could there be retrogression under the changed conditions of the code. After a sifting of a large number of names presented for consideration, those chosen were Dr. John A. Robison of Chicago, former president of the Illinois State Board of Health; Dr. W. L. Noble of Chicago, former president of the Illinois State Medical Society; Dr. Leon C. Taylor of Springfield, for many years a member of the legislative committee of the Illinois State Medical Society; Dr. Carl E. Black of Jacksonville, all of whom represent the regular school, and Dr. G. M. Cushing of Chicago, the secretary of the Illinois Homeopathic Association, who represents homeopathy. These physicians have served the state with rare fidelity and earnestness, making great personal sacrifices to aid the department in its important work for the profession of medicine.

There was an added degree of importance in the choice of the first committee because of the fact that a new medical practice act, marked by many advances, went into operation the same day the department began its work. The new practice act raises the minimum requirements of preliminary and professional instruction and empowers the Department of Registration and Education to establish additional standards. It gives the department power to revoke licenses for any one of nine reasons. It practically bars from the state the limited medical practitioners and places notable restrictions on their future licensure. It affords abundant opportunity for toning up the whole medical profession of Illinois, in case the department can have the support of the better element of citizenship for its aggressive acts. No stronger appeal could have been made to the ambition of anyone than that which was made to the director of registration and education July 1st. Under the law, as has been said, neither he, nor the assistant director, nor the superintendent of registration could be a member of any one of the processions or trades for which the State

requires a license. They were obliged to approach the problems of administration under many limitations of ignorance. Mr. F. C. Dodds, superintendent of registration, had the advantage of an experience of thirteen years as secretary of the Illinois State Board of Pharmacy, some of whose problems were like those of medicine. He had the added equipment of unusual familiarity with the statutes and an exceptional knowledge of the important legal decisions bearing on licensure. The department also profited from the acquisition of two of the clerks of the former State Board of Health who were best informed on the licensing problems presented to that body. Whatever handicap of ignorance the officials of the department had was more than overcome by the earnestness of their purpose to so carry out the spirit of the several laws as to win the approbation of those particularly concerned with them, and better yet, to find that self-approbation which, after all, is the supreme thing when sincerity rules the heart.

Something in detail about the work of the department during the last eleven months may have interest. Three examinations have been held: One in October at Chicago, at which time 148 candidates presented themselves; of this number 126 passed, 20 failed, 1 withdrew and 1 was incomplete; another in February at Springfield, where 65 candidates presented themselves, 50 of whom passed and 15 failed; and a third in March at Chicago, when 62 candidates appeared, 50 of whom passed and 12 failed. The totals for the period since July 1st last, therefore, show 275 candidates, of whom 226 passed, 47 failed, and 2 did not complete the work. 237 licenses have been issued since July 1, 1917, of which 27 were through reciprocity and 210 by examination. The discrepancy in the figures between the number of those who passed and the number of licenses issued is explained by the fact that there are always cases where a license is withheld pending the payment of the required license fee. Those licensed by reciprocity came from the following states: Missouri, 12; Michigan, 3; Indiana, 2; Wisconsin, 2; Nebraska, 2; Minnesota, 2; Ohio, 2; Kentucky, 1; Maryland, 1.

In the March examination a new feature was introduced in the form of a practical test. Through the courtesy of the officials of the Cook County Hospital, the facilities of that great

institution were placed at the disposal of the department. Both examiners and examined entered into the spirit of the new arrangement with hearty interest. The results of the experiment were so gratifying that it was decided to make this a permanent feature of the examination plan. At the same time it was determined that no license by reciprocity should issue except after the presence of the candidate before the examination committee and the passing of a satisfactory practical test. The department believes that these two advances are worthy of note by all friends of medical education. After careful consideration the examining committee has determined to make the entrance into the profession more difficult by closer scrutiny of the written and oral reports of the candidates. They share with other representatives of the department in the earnest desire to make the Illinois license in medicine most honored of all state licenses because most carefully guarded.

The records of the department show that, under the first medical practice act of 1877, 18,626 individuals were licensed, 16,905 by the presentation of diploma, 1,236 by years of practice, and 485 by diploma and supplementary examination. Under the acts since 1899 there have been licensed by examination and by reciprocity, 11,304, making a grand total of 29,930. How many of these licenses are active at the present time, nobody knows. The department has no check upon them, as it has upon licentiates in other lines by means of an annual registration requirement. In 1916 the American Medical Association made a computation which placed the number of living physicians in Illinois at 11,600. Counting for deaths and removals, and estimating additions by examinations, there probably are about 12,000 at the present time who hold Illinois licenses. Ignorance upon this vital matter of administration places the department under a great handicap. It does not have any means of knowing where its licentiates are, or what they are doing. It receives a daily press clipping service which helps to some degree in checking deaths and removals. But its inspectors find imposters who are using the licenses of honorable practitioners long since dead; charlatans who are claiming to be authorized representatives of patriotic physicians who are "over there" ministering to the wounded and dying among our soldier boys on the far-flung

battle line; fakery, quacks, irregular, illegal, immoral, unethical, untrained men, who grow rich on gullible humanity and trail in the dust and the dirt the banner of one of the great professions. To be asked to enforce a medical practice act without having the machinery for ascertaining who is entitled to its privileges and who is ignoring its restrictions at best is a difficult situation. The advantages of an annual registration upon the payment of a nominal fee as an effective weapon for protecting the profession and for aiding in the prosecution of pretenders have already been suggested to some of this company.

One of the first problems presented to the department after its organization was the plea for restoration of two medical colleges, namely, the Jenner Medical College and the Chicago Hospital College of Medicine, institutions which had been declared by the State Board of Health to be no longer "in good standing" with the licensing authorities of the state. A large amount of time and attention has been given to the consideration of these petitions. The institutions were re-inspected, one of them twice. Several meetings for conference were held, attended by representatives of the department, administrative and professional, and by those interested in the colleges. No change in the status has as yet been made. In one case mandamus proceedings which were begun have not been prosecuted.

An encouraging event of the year was the union of the Bennett Medical College of Loyola University with the Chicago College of Medicine and Surgery. This amalgamation reduced the number of recognized medical schools in Illinois to five, namely, the University of Illinois College of Medicine, Northwestern University Medical School, Loyola University College of Medicine, Hahnemann Medical College, and Rush Medical College. Illinois has made splendid advances, evidently, since the day when its fourteen medical colleges, five or six years ago, led to the use of the words, "the plague spot of medical education in America." Each of these five colleges has been visited and inspected by the department during the year, one of them twice. The records have been searched with care by a special representative of the department. Where irregularities or improper methods have been discovered, the facts have been called to the attention of the

officials of the institution affected and prompt promises of rectification have been made. New rules and regulations connected with the Medical Practice Act have been established and put in force after a conference participated in by the administrative officials of the department, by the members of the medical examining committee, and by the deans and secretaries of the five schools. Each of the five institutions, through the proper official, has indicated in writing its intention to abide by these regulations thus agreed to. The department on its part has declared its express determination to enforce the rules and regulations without fear or favor.

The grossly improper and unethical attitude of certain practitioners of medicine was early called to the attention of the department. When an abundance of evidence had been secured, in which the department was greatly aided by the *Chicago Tribune* and by other helpers, a number of such individuals were summoned to appear to show cause why their licenses to practice medicine and surgery in Illinois should not be revoked. While the evidence presented in a number of instances was amply sufficient to satisfy anyone that the strict requirements of the law and the ethics of the profession were being contemptuously ignored, in but three cases did the department feel warranted at the time to take drastic action, possibly involving legal procedure against it. On February 7, 1918, it revoked the licenses of Dr. Isaac W. Hodgens, Dr. Leon Thompson Burgess, and Dr. Arthur L. Blunt, all of Chicago. Two of these sought, through certiorari proceedings, to review the acts of the department relating to them, but the court declined to grant their pleas for the privilege of this writ. The department is watching these individuals closely and will prosecute them vigorously should they be found to be continuing in the illegal practice of their former profession. In the other cases mentioned, where no action was taken at the time, conduct is being carefully observed. Since the first group of offenders was summoned for a hearing, information has been filed regarding about twenty more physicians in different parts of the state. Arrangements have already been made for summons to certain of these to appear and show cause why their licenses should not be revoked. The department ear-

nestly seeks the cooperation in this work of all reputable practitioners and, particularly, of local medical societies. It hopes, at future meetings of this society, to have the pleasure of reporting still other revocations, knowing clearly how large the number is of those whose professional career should have such sharp termination, so far as Illinois is concerned.

The department has been active in the prosecution of physicians who have been violating the law and of unlicensed persons who have been practicing medicine in Illinois. A brief summary shows that eighty-two cases have been filed in courts in all sections of the state. Thirty convictions have been secured, forty cases are still pending, twelve have been dismissed, usually on payment of the costs. A classification of the penalties which have been secured shows one at \$20.00 and costs; twelve at \$25.00 and costs; four at \$50.00 and costs; one at \$75.00 and costs; two at \$100 and costs; one at \$150.00 and costs; two at \$200.00 and costs; one at \$50.00 and costs and thirty days in jail; one at \$100.00 and costs and six months in jail; one at \$200.00 and costs and one year in the House of Correction; one at six months in the Bridewell. Outside of Chicago the department has lost but two cases. Until recently no support was given by the Chicago Medical Society, which, however, has appointed a grievance committee from which noteworthy activity is hoped. The St. Clair County Medical Society has been of great assistance, the aid of Dr. Lillie of East St. Louis being deserving of special mention. The state's attorney of St. Clair County asked the department to assign one of its inspectors to that county to assist him. In four months he filed over 200 cases, against physicians, midwives, druggists, dentists and representatives of other professions, trades and occupations. The department lost but one of these cases. It is a shining illustration of what may be accomplished with the aid of local organizations and the cooperation of state's attorneys. By contrast it calls attention to other parts of the state, as corrupt as St. Clair County was before the great clean-up, where the state's attorney will not act, and where the county medical society will not help in creating a public opinion which will force such an official to do his sworn duty.

If the department can enlist the aid of organizations like this, it can accomplish notable things

in the course of the next year. Its ambition is to help in every possible way toward the upbuilding of medicine. Its aim is to enforce the law regarding medicine as strictly as it may. It looks forward in the near future to the completion of lists of approved schools of various grades, from the public school through the college to the professional school. It plans a similar study and classification of hospitals. It will have for the benefit of the medical profession the results of inquiries now being made in connection with other professions, whose laws it likewise is called upon to administer. The worth of this larger fund of knowledge illustrates again the value of the department under the Administrative Code as compared with previously existing boards, whose work was limited to a smaller field.

The department needs two new bits of machinery. One, as already suggested, is an annual registration fee. For this the argument in brief is: It would enable the department to keep in touch with legal practitioners. It would be a great aid in keeping a correct roster of addresses. It would afford opportunity to discover cases of individuals using the licenses of others who have died or have left the state or from whom licenses may have been stolen or purchased. It would enable the department better to control some of those unethical practitioners whose actions bring discredit upon the profession. It would furnish funds for the department at slight cost to the individual physician. Its willing payment would provide a splendid argument against the imposition of a larger annual state license fee, easily possible in these days of regulation, when governments are seeking everywhere for increased opportunities for raising needed funds. It is strictly in line with the best practice in other professions. It is favored by many of the closest observers of medical problems in the country.

The other desired advance is a state certificate, to be issued by the department to every candidate for admission to a medical school in Illinois, showing that his credentials of preliminary education have been examined and approved. If this precautionary step were taken, the unfit and unprepared would be kept out of the medical schools, and nine-tenths of the difficulties which

have caused trouble and scandal would be removed.

In connection with every profession and trade nowadays there is a demand for greater efficiency and consequently for better preparation. This demand is a reflection of the national spirit as it has been stimulated by the lessons of the great war. Many an applicant for position in army or navy has been sent back home branded unfit. The calls for men skilled in particular crafts have been unanswered, because of the lack of such workers. Our equipments have been defective, our curricula inadequate, our instructors poorly prepared and uninspiring, our student methods slipshod and lazy. In the hour of national peril and world testing, our people have been weighed in the balances and found wanting. When the war is over, Americans may swing back into their paths of ease in some respects, but they are not likely to tolerate for the future the ineffective machinery for education, whose faults have been made so apparent in recent months.

So those who are working toward better standards for professional preparation in Illinois have determined to share in this national movement for increased efficiency. They aim to make requirements for licensure more rigid, so as to eliminate the unfit; to demand more careful attention of college officials to the records of student work; to scrutinize with greater pains credentials of preliminary preparation. Thus they hope better to protect the individual who spends his money for training, and more important yet, to protect the people against the impositions of unworthy and untrained practitioners. These ambitions attained, it goes without saying that the medical profession in Illinois will be placed upon a plane of honor higher than ever before and more worthy of an imperial state like ours.

As director of the Department of Registration and Education, I can assure this society with confidence, that the department will not be satisfied until the requirements for medicine here are as high as in any other part of the world.

The department believes it has faithfully administered the stewardship entrusted to it by the Medical Practice Act. It has confidence that it can accomplish far more during another year, if it has behind it the cordial endorsement and the united support of the membership of this great society.

THE EXOPHTHALMIC GOITER

E. P. SLOAN, M. D.

BLOOMINGTON, ILL.

So much vague, mystifying literature has been written about "Exophthalmic Goiter," that one hesitates to discuss it. The term exophthalmic goiter as popularly understood by the laity and many physicians includes so many different conditions that confusion is inevitable. I will not undertake to define and limit its applications in this paper, but will use it to designate any serious disturbance in the endocrine system with obvious thyroid involvement. The majority of women during pregnancy have temporarily an enlargement of the thyroid. The majority of girls have a simple diffuse enlargement at puberty. If excessive in size, coming on rapidly, somewhat tender to the touch and with symptoms of hyperthyroidism, including heart disturbances and some protrusion of the eyes, it is a typical case of acute hyperthyroidism. Nearly all of these cases that come on at puberty are caused by a small fetal adenoma cyst or other tumor in the substance of the gland. These simple tumors frequently commence to enlarge at about the time of puberty and by irritating the adjoining gland tissue, cause congestion and swelling of the entire lobe and sometimes of the lobe of the opposite side also. Secretion is stimulated. Acute hyperthyroidism develops, and if severe enough, exophthalmus will result. As the tumor enlarges the gland substance over some point becomes thinner and the tumor is forced out onto the surface of the gland. When the tumor reaches the surface the pressure in the gland tissue is removed, irritation and congestion of the gland subsides, the hyperthyroidism ceases, the patient recovers entirely from all systemic effects.

The tumor is still present under the capsule at the surface of the gland.

Frequently the gland substance adjoining this tumor goes on to cystic degeneration. Small cysts form at this point and may form throughout the entire gland. With the development of each cyst the irritation may return, with the resulting congestion, inflammation, hyperthyroidism, some exophthalmus and then regression of the process. If such attacks continue hyperplasia or some type of degeneration may occur. In fact,

nearly every type of degeneration and tumor growths is sometimes found in the same gland. Also the same case may have, early in its progress, repeated attacks, each one a typical picture of hyperthyroidism with exophthalmus, followed by periods of regression, and later after some permanent exophthalmus has occurred and the gland has undergone some degeneration that has destroyed nearly all the normal tissue, a deficient amount of thyroid secretion is elaborated and hypothyroidism with toxemia may develop. Sometimes hyperthyroidism and hypothyroidism with thyrotoxicosis from abnormal secretion of the gland may be present at the same time. Therefore we use the term exophthalmic goiter as it is popularly understood. It includes the simple exophthalmic goiter, the chronic exophthalmic goiter, Graves' disease, the hypothyroid, the thyrotoxic and the tumor of the gland with complications, such as excessive pressure symptoms, heart lesions, kidney disease, disease of the pelvic organs, pulmonary tuberculosis or asthma.

The tendency and probable course of every goiter is first hyperthyroidism, with irritation of the circulatory system and extreme systemic stimulation, then some form of degeneration causing destruction of the gland tissue, lessening the amount of secretion, and later hypothyroidism with a small amount of normal secretions, but toxemia from the abnormal secretions elaborated. Other forms of degeneration in the gland are often coincident with it. Hyperplasia may develop in the gland and a large diffuse goiter with intense symptoms develop. Hyperplasia may also occur with tumor formation present in the gland. Sometimes it occurs with fibrosis of the gland, and a small, hard gland is present with severe symptoms. With all these various types of severe disturbances of the thyroid included in the general term of exophthalmic goiter, cardiovascular disturbances are always found. There is no case of active goiter without cardio-vascular disturbance. The diagnosis of goiter often rests upon the examination of the heart. Goiter causes endocarditis, premature contractions, auricular flutter, auricular fibrillation and myocarditis. Removal of goiter benefits or cures these conditions when it has caused them. Heart-block and defects in transmission of impulse are not caused by goiter and are not benefited by removal of a

goiter that may be present. An understanding of the disturbances of the mechanism of the heart is of recent development. In deciding what to do with serious goiter cases a correct and definite understanding of the organic lesions and disturbances of the heart is necessary. The same importance should be attached to them that would be given them in estimating operative risk for any other condition. But, with goiter it must be absolutely determined whether endocarditis, premature contractions, auricular flutter, auricular fibrillation or myocarditis are present. When you have determined exactly the condition of the heart then you can decide with precision as to what to do at this particular time for this particular exophthalmic goiter.

Medical treatments, injections, ligation of the arteries, x-ray, mechanical therapy, Christian Science, change in climate and various other things have all been tried and been abandoned as curative methods. Excision of the diseased part of the gland does cure with a certainty. It is not a question of acute increasing exophthalmus or a decreasing exophthalmus; whether it is Graves' disease, hypothyroidism, thyrotoxicosis or complicated tumor of the gland. The question is, will the condition of the heart permit of excision of a part or all of the diseased portion of the gland? No other treatment has been of permanent value. Therefore the only question is, can this patient stand excision of the goiter?

It is an almost universally accepted belief that the exophthalmic goiter should not be operated upon during the period of acute exacerbation; that any operation performed while the symptoms are developing is liable to result seriously; that if the operation is performed while the symptoms are decreasing the result is almost sure to be satisfactory. This theory has arisen from the fact that auricular flutter is often present during the period of exacerbation and that auricular fibrillation has usually occurred by the time that the exacerbation has ended. It must be estimated by the condition of the heart whether the operation can be done with safety or not. The prognosis as to the ultimate result also rests almost entirely upon the condition of the heart at the time of the operation. If the heart is in good condition, the indication is for immediate excision of at least a part of the gland. Endocarditis is always present early and is accompanied by a certain form

of restlessness and some emotional disturbance. Sometimes with the acute hyperthyroidism some exophthalmus will be present, endocarditis will be fully developed, the heart action somewhat rapid but the rhythm regular and perfect. The immediate improvement following operation in these cases is very spectacular. If auricular flutter is present immediate operation is not to be thought of; rest in bed with x-ray treatment, injections in the gland or ligation of the arteries are indicated. If the flutter persists the patient should be given digitalis to the limit. When the auricular flutter becomes an auricular fibrillation the digitalis should be discontinued at once. Usually the fibrillation will subside and the auricle commence a regular normal contraction again. The judgment of the observer must then decide whether it is best to operate at that time or keep the patient entirely at rest and wait several weeks before operation. The earlier in the stage of the disease the more indication for immediate operation; the later the stage of the disease the more indication for giving the heart time to recuperate. The earlier the stage of the disease the sooner you may expect another attack of hyperthyroidism and a return of your flutter.

Several years ago we used hot water injections in a series of over one hundred cases. The hot-water injection, if given with proper technic, will stop the secretion forming in part of the gland temporarily. In some cases it gives great temporary relief. If enough hot water is injected to accomplish the desired result considerable pain is usually caused by it. As a curative agent it has been a failure. It is of great value in preparing patients for operation. Recently we have used injections of quinine and urea hydro-chlorid for this purpose. Enough necrosis and inflammation to stop the secretion from a portion of the gland is caused by it. The result of the injection depends upon the amount of irritation and of tissue destroyed. The pain following the injection is not so great as that following the injection of boiling water, the technic is much easier. Toxic goiters and those with hypothyroidism are not benefited as much as those with hyperthyroidism. Ligation of the superior thyroid has been a favorite procedure in some large clinics. We have had better results from the injection treatment than from the ligation of the superior thyroid artery. The scar left from this

procedure is dreaded by a great many. Its location high in the neck makes it impossible to cover it up. We very much prefer ligation of the inferior thyroid. By going externally to the sternocleidomastoid muscle, $\frac{3}{4}$ inch above the clavicle, and making an incision $\frac{7}{8}$ of an inch long, through the skin and superficial fascia, retraction of the sternocleidomastoid muscle inward and upward brings your small incision right over the inferior thyroid between its origin at the thyroid axis and where it goes under the carotid. The operation at this place is easier than the one of ligation of superior thyroid, and we get as much benefit from ligation of one inferior as we do from ligation of both superior thyroids.

The two main causes of cardio-vascular diseases are focal infections and goiter. By recognizing focal infections and their importance, and by eliminating them, we have reduced greatly the amount of cardio-vascular disease. Yet at the present time cardio-vascular disease is the greatest cause of death in the registration area.

Of the patients that we have seen during the last five years having cardio-vascular disease, 92 per cent. have been traceable to goiter. Certainly goiter is the main cause of cardio-vascular disease. By recognizing goiter early and by excising goiters early, we can almost eliminate the present large death rate traceable to goiter.

DISCUSSION

Chairman: The doctor's paper is very important, and I regret that more are not here to hear it. He spoke of a case of preliminary treatment, using x-ray until the heart condition subsided and then to operate. I have seen cases treated intensively with x-ray and then come to operation, and the operation was very difficult, and the attending surgeon made the statement that the x-ray rendered the difficulty of operation much greater. I would like to ask him if this is true, and if he has had this experience.

Dr. Haeberlin (Chicago): It seems to me that it is summed up very well when we examine a patient with enlarged thyroid: have we or have we not a goiter, an internal secretion that is poisonous?

If an individual has a thyroid throwing a poison into the circulation, immediately we get two classifications; an individual with enlarged thyroid, and an individual on the other side in which the thyroid is throwing off a poison that is malignant, and these cases are called thyrotoxicosis. Sometimes this poison has a predilection for the cardio-vascular system. We know that many times individuals have vague nervous symptoms due to thyrotoxicosis. The size of thyroid has nothing to do with the amount of

toxic absorption. Some are of the most fatal types, others are mild—the size has nothing to do with it.

Now, another thing, we don't know what that poison is. It has never been isolated. Ordinarily we figure that we do our thyroidectomy on the enlarged portion of the gland. Why? Because ordinarily we think the enlarged portion is the portion wherein the trouble occurs.

Now, when you get a real case of thyrotoxicosis, what do you do? There is no medication that does any good. The old-time treatment used to be, and I have treated a lot of them, we put them to bed, put an ice bag on the heart, and we kept them on a milk diet and removed all external irritations. We gave them rest. It is true, while you keep your patient under such a line of treatment, he improves a little bit, but just as soon as you put that individual where he has the ordinary stress of life, where he goes out and tries to meet the world, he will have a recurrence of his symptoms, and when you get a genuine case of thyrotoxicosis, the only thing to do is to operate, remove the thing that is making the poison.

Now, when do we operate on these cases? We never operate when the patient is getting worse. Another thing—never operate when the kidneys are involved enough to produce an edema, and never operate when the cardio-vascular compensation is lost, or the heart dilated. Watch your patient and give him absolute rest, as Dr. Crile has brought out very forcibly in his works. If you get the cases at a time when they have a loss of compensation, and the kidneys are full of albumin, and the patient has a dilated heart, with proper treatment, it is just a matter of a week or ten days until the heart will come down fifteen to thirty points, the tremor will be controlled, the edema will disappear and the urinary secretion is better. Then with our modern technic, it seems to me that the thyroidectomy, as practiced now, is the operation of choice.

I have done a lot of ligations, and this boiling water injection may be all right; but my experience is that if you do that you will have to re-operate later on. The rest in bed with the ice bag is sufficient to tide the patient along, so that you can do a thyroidectomy; done under the modern technic, and done accurately and quickly, your patient gets along very nicely.

Dr. Dikeman (Springfield): I would like to ask the doctor if it is justifiable to operate on a case, say, from sixteen to twenty-five years old.

Dr. Sloan: X-ray exposure does seem to assist in reducing the simple thyroid case. We use it. It certainly helps to hold the patient over for a little time and keep the patient in bed.

The doctor brought out the main point when he said that you must keep these patients in bed.

I feel that the improvement in any goiter case is just in proportion to the improvement in the condition of the heart. If at the time of the operation you make an accurate diagnosis of the exact condition of the heart, and that means the mechanism of the heart as well as the organic condition of the heart, you can tell how the case is going to terminate.

They always feel better after they have been operated on. I have yet to find one that isn't glad that he or she had the operation, and when you come to consider the fact that the majority of these operations are entirely successful, I think you will feel them well worth while.

If you only take out a part, one year or two years afterwards, or six months afterwards, that patient comes back in good condition and ready to have the operation completed, and you need have no fear that that patient will come back to you and reproach you for not doing it all.

Now, the ages. We have operated on several patients under twelve, taking out the tumor that is irritating the rest of the gland. Most of the patients will agree to having a small incision made. It isn't much of a job, and you will save the patient a thyroidectomy in the future by this.

HISTORY OF THE ILLINOIS STATE MEDICAL SOCIETY PRELIMINARY STATEMENT

GEORGE N. KREIDER, M. D.
SPRINGFIELD, ILL.

The Illinois State Medical Society bears the distinction of being the first scientific organization in Illinois. The formation of a state organization of the medical men of Illinois was fore-ordained. Many of the Eastern States had societies, some of them, like New Jersey, Connecticut and Massachusetts, dating from the eighteenth century, while New York and others were organized early in the nineteenth century. The states west of the Alleghenies were slow in organizing, and we may well take a few lines to give the probable explanation for this. In doing this let us remember the scattered population and the small number of large towns. Chicago had 20,000, Quincy 6,000, Peoria 5,000, Springfield 4,000, Jacksonville 3,000 in 1850. Let us remember the scarcity of good money. Let us remember the shock to state pride given in the 40's by the fiasco of internal improvement and the attempted repudiation of the state debts. Let us remember the small number of educated medical men and the laborious, even dangerous conditions under which they practiced. Roads were mere trails. Streams were unbridged. Hotel accommodations were vile. Good animals for transportation were scarce. Dr. Pasfield has often told me that during certain seasons of the year the heat was so stifling and the insects so numerous and irritating that horses

could only travel by night. The swamps were undrained; clouds of mosquitoes from them invaded the rudely constructed homes, and malarial fever abounded. Nor was the malaria which the mosquitoes carried the only disagreeable part of the beasties. Usually for weeks every summer and fall people scarcely slept any at night because of them. In 1849 an epidemic of cholera swept off thousands of active citizens. People lived in fear of other epidemics of this disease which the profession was powerless to check. Even now with modern developments of transportation the state is one of considerable distances, but let us remember the difficulties of travel in the early years of the last century. There were in 1850 but two short lines of railroad: The Sangamon and Morgan, from Mecedosia to Springfield, the Chicago and Western, running to Elgin. Considering all these things, the wonder is that an organization was affected so early. Ohio, under the stimulus of Daniel Drake, had after twelve years of effort only organized two years before. Kentucky, under the stimulus of Samuel D. Gross, was not organized until one year later. The great stimulator of our organization we may imagine was Nathan Smith Davis, who had only been located in Chicago a few months. He it was who while a country practitioner in New York had started the movement which resulted in the formation of the American Medical Association. Undoubtedly there was a move toward better professional organization when Davis reached the metropolis of this state in 1849. We can hardly understand why he did not attend the first two meetings. Possibly the time necessary for the journey, four or five days, and the deliberations, two days, was too burdensome. Neither did Dr. Davis attend the meeting at Peoria in 1851 and was not one of the delegates to the meeting of the American Medical Association elected at that meeting. Dr. Davis first attended a meeting of this society at Jacksonville in 1852, and was elected one of the delegates to the American Medical Association to be held in the city of New York. From this time forward for more than fifty years he rarely missed a meeting, and his devotion to duty had much to do with its success. Dr. Davis attended the meetings as a conscientious duty. It was not his habit to stand around on the outside while the meetings were in progress. He was always on the front row of seats,

attentively listening to the speakers. If the speaker promulgated the truth, Dr. Davis was apt to commend him. If he uttered foolishness, he was rebuked. If he mumbled through his paper in a voice that could not be heard, Dr. Davis was apt to scold him for wasting the time of the society.

In order that the subject may be studied intelligently, we have divided the time, 68 years, into eight periods, which will be first stated and later studied in detail. These are:

1. 1850 to 1861. Formative period. Embracing formation at Springfield, 1850. Meetings at Peoria, '51; Jacksonville, '52; Chicago, '53; Rockford, '54; Bloomington, '55; Vandalia, '56; Chicago, '57; Rockford, '58; Decatur, '59, and Paris, '60. A slow growth and small membership. Not all were college graduates.

2. 1861 to 1866. Civil War period. Two meetings abandoned because nearly all members were in military service getting the best training possible at that time for successful civil practice.

3. 1866 to 1877. Post war period. Gradual growth in influence and members. The first law establishing the State Board of Health and regulating practice of medicine, agitated for years and passed during the session of the 30th General Assembly, was altogether due to the State Society.

4. 1877 to 1890. State control period. Great stimulus due to state law and improved hygienic conditions.

5. 1890 to 1899. Germ theory period. General acceptance of the new conceptions of disease. Continued slow growth of society until 1899, when Journal was established.

6. 1899 to 1917. Journal period. Growth of society more rapid, especially after change in character of A. M. A. organization, admitting all legal practitioners.

7. 1917 to 1918. Present period. 1917—The United States engages in world war. Large numbers of members tender their services.

I find the following resolution in the volume of transactions for 1863. It is so appropriate at this time that it is reproduced here:

Meeting of the Illinois State Medical Society held May 6, 1863, at Jacksonville, Ill.

Dr. Hollister of Chicago offered the following resolution, which was unanimously adopted:

Resolved, That we tender to those of our members serving as medical officers in the Army and

now absent in the field, assurances of our kind remembrance of their humane labors and personal sacrifices; that we congratulate them upon their being able to contribute services so valuable to a cause so *noble*, and that we join with them in earnest desires, and personal efforts if need be for the early restoration of *peace* and the integrity of the *entire* union.

THE TREATMENT OF MERCURIC CHLORIDE POISONING.*

BERNARD FANTUS, M. S., M. D.

Associate Professor of Therapeutics, Rush Medical College.
CHICAGO.

Too much has of late been published on this topic. My justification for adding to this excess is that the literature on this subject is not only excessive, but also confusing. So great a variety of treatments has of late been evolved that the practitioner, face to face with a case of mercurial poisoning, cannot help feeling at a loss as to what would actually be best to do. To simplify, to clarify the situation, if possible, is my purpose.

The truth of the aphorism of Hippocrates: "Experience is fallacious and judgment difficult," is nowhere better illustrated than in connection with this topic. Clinical reports of one, ten, or even a hundred cases of corrosive sublimate poisoning with no or few deaths furnish but slender evidence of the value of any treatment, for there are so many factors of uncertainty involved. Thus size of dose makes a difference, but not necessarily in the anticipated direction. A large dose that is promptly evacuated by emesis may give the patient a better chance for recovery than a smaller dose that is not so promptly or thoroughly thrown back. That is the reason it is impossible to establish a surely fatal dose for this poison in the dog. Even the morphinized dog vomits so frequently as to make an extensive series of experiments upon this animal impracticable. What was in the stomach of the patient before the poison was taken is of greater importance even than the size of the dose; for mercury is so reactive a body that it will combine with many materials that might be present in the stomach; and, if the combination is promptly vomited, serious results might not occur. This, as well as variations in details and

*Read at sixty-eighth annual meeting of Illinois State Medical Society, March 22, 1918.

combination of treatment and in the time when the treatment was commenced, all contribute to make it impossible to say with scientific certainty that the patient recovered because of, rather than in spite of, a certain remedy. This is why a comparatively limited number of carefully controlled animal experiments is of greater value in arriving at tentative conclusions than a much larger volume of clinical experience.

There are two fundamental indications in the treatment of poisoning: One, to remove the poison; and two, to remove the effects. That we can do neither of these two things in mercuric chloride poisoning as completely or as thoroughly as we may desire becomes evident from the outset, when we contemplate the striking pathologic changes produced by the poison: The corroded stomach, the necrotic rugæ of the colon, or the degenerated kidney. There are, no doubt, certain patients who will die no matter what is done for them, just as there are cases that recover no matter what is done, but there must be some in whom treatment may turn the balance.

To remove the poison from the stomach or the system, in this condition, is a most discouraging task in view of the comparative insolubility and non-diffusibility of mercuric albuminate formed the moment mercuric chloride comes in contact with the protein material of the tissues. Were we to remove the stomach from an animal shortly after the administration of the poison, open the viscus and hold it under a stream of water, the running water would make very little impression upon the tough coagulum that lines the gastric wall. What chance have we then of removing it by stomach washing? Of course, the stomach should be washed out at once, so as to remove all other material in it that has combined with mercury; but the mercury that has precipitated itself into the gastric mucosa, and which is particularly dangerous, as it projects right into the redissolving blood stream, cannot be removed by emesis, stomach washing, or any other method known. It is a problem like that of unscrambling a scrambled egg. Even if we had the means of readily dissolving the coagulum, the employment of such a measure would be dangerous, as it would be liable to open up blood vessels and start a hemorrhage that might be fatal.

Giving albumen or other precipitant for mercury is quite useless, as I have shown by carefully

controlled experiment¹, because by the time they are usually given all of the mercury has already been precipitated. If one could give a lot of egg albumen immediately after the poison had been swallowed, something might possibly be accomplished; but egg albumen is useless when given even five minutes later. Milk and serum albumen do not even lessen the toxicity of mercuric chloride, when they are given mixed with the poison. Wm. A. Hall² advanced the apparently ingenious idea of reversing Meyer's Reagent for alkaloids to effect the precipitation of mercury. Meyer's Reagent, which is a solution of potassio-mercuric iodide, is a well known general alkaloidal precipitant. Now when potassium iodide is mixed with a harmless alkaloid like quinin, it becomes a good precipitant for mercury. But, unfortunately, as I have found out by animal experiment, the precipitate is quite as poisonous as the uncombined mercury. Sodium carbonate, which likewise precipitates mercury, is also without antidotal value, for the precipitate kills animals quite as readily as the soluble poison. Methylene blue forms with mercuric chloride a voluminous colloidal precipitate; but, as I have discovered in as yet unpublished experiments, it fails to save animals from death by a lethal dose of the poison. None of these things are better, or as good, as egg albumen.

After the poison has been absorbed in the system, it can still not be washed out to any appreciable extent, as has lately been shown by W. D. Sansum³ who, immediately after administering to dogs a fatal dose of mercuric chloride intravenously, produced an enormous diuresis by a prolonged and accurately timed intravenous injection of large amounts of fluid by means of a special pump devised for such purpose. Even though dogs passed, within an hour after the poisoning, from 2,000 to almost 3,000 mls of urine, the treated dogs did no better and even worse than those that received the same dose intravenously but without the attempt at washing out; and, as stated by Sansum, the treatment itself is not detrimental to normal dogs. Hence, it must be concluded that eliminative treatment is useless, once a fatal dose has been absorbed. The poison evidently exists in the system in colloidal, that is, in non-diffusible form, hence cannot be washed out to any important extent.

Is there nothing then, it may be asked, that is

of use in the treatment of this condition? I believe there is, and that one of our means of attack lies in the use of reducing bodies. Mercurous compounds are much less toxic than mercuric salts. The problem then is to reduce the mercuric albuminate present in the alimentary tract; and, if possible, elsewhere in the system. That the latter cannot be done, may be assumed *a priori*, as the system is full of oxidizing bodies that would render our reducing agents inert; and, inasmuch as none of these reducing bodies have a specific affinity for mercury, there is no reason to suppose that they could pick out the mercurial particles in the system to be oxidized by them in preference to suffering oxidation from contact with a multitude of other oxidizers. This assumption is borne out by some of Sansum's experiments, in which he injected intravenously a large excess of sodium phosphite-acetate mixture, a good reducing agent, into a poisoned animal; but with negative results.

The reduction can, however, be accomplished while the poison is in the stomach, as is shown by the following observations: G. A. Linhart⁷ announced, in 1913, that reduction of corrosive sublimate to calomel can be accomplished by sodium phosphite, instantaneously and completely, when salts of a feeble acid, such as sodium bicarbonate, acetate, or citrate are present at the same time. They act by lessening the liberation of H-ions, which, when they accumulate to a sufficient extent, slow and finally stop the reaction. He proposed that the combination be used as antidote in mercurial poisoning, and stated that he had received good results in animal experimentation. The next year, Thomas A. Carter^{4, 5, 6} reported remarkable results with the use of this combination in poisoned human beings. Carefully controlled animal experimentation enables me to confirm these claims and to state that sodium phosphite (10 parts) combined with sodium acetate (6.6 parts) has a decided antidotal value in poisoned rabbits, which animals were chosen for my experiments, because of their inability to vomit, which enabled one to rely upon the retention of the dose.

Sodium phosphite alone is of no value. The reason for this is that phosphite alone reduces the mercury but slowly and incompletely. It is interesting to note, too, that a large excess of

acetate seems to destroy the antidotal value of phosphite.

As sodium phosphite is not generally obtainable in drug stores, while sodium hypophosphite is. I experimented on the antidotal value of hypophosphite and found that, as in case of phosphite, hypophosphite alone is of no value as an antidote, that the combination of hypophosphite and acetate has antidotal action; and that good antidotal results were likewise obtained from a combination of sodium hypophosphite and hydrogen peroxide.

To determine which of the two is the better antidote I undertook, with the help of Mr. Hyatt⁸, a rather extensive series of experiments with the result that the phosphite-acetate mixture seemed to be somewhat more effective; though the sodium hypophosphite-hydrogen peroxide mixture came in as a close second. When, therefore, sodium phosphite is not available, the following combination might be recommended:

Sodium hypophosphite	1.00 gm.
Solution hydrogen peroxide	2.50 ml.
Water	10.00 ml.

If the amount of the poison is known, ten times as much of the phosphite or hypophosphite should be given, as poison was taken. This should be followed by lavage with a dilute solution of the antidote. After this, owing to the fact that mercury is still in the stomach, and eliminated into it, a dose like the one suggested above, might be given every four to eight hours for several days.

Other reducing bodies I have tried as antidotes are stannous chloride and sodium sulphite in various combinations; but with negative results. These agents are evidently too unstable and too generally reactive. Calcium sulphide, suggested as antidote, in 1913, by Hayward and Allen⁹, seemed to me too toxic to be seriously considered. Nevertheless, J. H. Wilms¹⁰ and M. L. Holm¹¹ advocate it as an antidote. Wilms advises the intravenous injection of calcium sulphide 0.06 gm. to 30.0 ml. of distilled water per 0.06 gm. of bichloride taken. The solution must be freshly prepared by dissolving the calcium sulphide in boiling water, and filtering while hot. Wilms also suggests that the calcium sulphide may be taken by mouth, giving 0.12 to 0.30 gm. every hour, when the intravenous method is impracticable, or that both methods may be combined. Wilms' claim that human beings can be

given without serious results 0.5 gm. of calcium sulphide intravenously is certainly interesting. It is somewhat offset, however, by the experiments of Haskell and Courtney¹³ who conclude that the benefits of calcium sulphide treatment are greatly overshadowed by its danger, owing to the toxicity of the antidote. In the present state of our knowledge, in view of the comparative harmlessness of phosphite and hypophosphite and their proved efficiency, it seems folly to advocate the use of so dangerous a remedy.

To remove the effects of the poison is even more difficult than to remove the poison. Still there is one effect that we can antagonize, and that is acidosis. That this occurs in the later stages of mercuric chloride poisoning has been shown conclusively by W. deB. MacNider¹⁴ and others¹⁵. MacNider believes that the nephritis is not due to the elimination of mercury by the kidney, but to the acidosis.

In the terms of Martin Fischer's edema theory, this would be interpreted as meaning that the swelling and subsequent destruction of the cells of the kidney was due to the greater water affinity of the acid protein. To this I would add that, once the kidney function is crippled, the acidosis becomes aggravated; for it is one of the functions of the kidney to eliminate acid into the urine thus saving the system from acid intoxication. The acid intoxication is further increased by the acidosis of starvation produced by the profound changes in the alimentary tract, which make it generally impossible to administer nourishment for several days. Vicious circles are thus established, in which it might reasonably be believed that alkali and carbohydrate, properly administered, would be of value. Experimental as well as clinical evidence are in favor of this.

In my work with rabbits, the only substances besides albumen and reducing agents that were found of value were the alkalies, sodium bicarbonate and sodium acetate (cf. Table 1). In view of the fact that these bodies do not precipitate mercury or do so but poorly, I was at first unable to understand the reason for the beneficial effect. It seems to me, now, that their action is due to antagonism of acidosis.

In this connection it may be also noted that we observed that oat- and carrot-fed rabbits were much more easily saved by means of antidotal treatment from death by a surely fatal dose of

mercury, than were those that were fed on oats and water. I subsequently found that Ellinger¹⁶ had noted a similar relation of feeding to the toxic action of cantharidin, and that Salant¹⁶ and collaborators had obtained identical results from feeding in poisoning with tartrates. Ellinger believed that the comparative immunity of carrot fed animals to cantharidin, was due to the fact that these animals passed alkaline urine, while the oat-fed animals' urine was acid. When oat-fed animals were given sodium bicarbonate or sodium acetate in sufficient amounts to alkalize the urine, they were as refractory to cantharidin as were carrot-fed rabbits. Salant, on the other hand, does not quite agree with this conclusion, as he finds that rabbits passing alkaline urine when fed on a diet of hay or cabbage or old carrots, were not nearly as resistant to tartrate as those fed on young carrots. He believes that the sugar may also play a role, for glucose has been found to exert a protective action in poisoning; but he concludes that we are as yet unable to completely explain the marked protective effect of carrot-feeding in tartrate nephritis.

From the clinical side, alkaline treatment seems now well established. Perhaps the best known examples of it is that advocated by Lambert and Patterson¹⁷. H. B. Weiss¹⁸ reports very good results from treatment very similar to that of Lambert and Patterson, with the exception that the frequent gastric and colonic lavage is omitted; and that, unless the case is obviously a mild one, alkali is used intravenously in the form of Fischer's solution (sod. carb. cryst. 10 gm., sod. chlor. 15 gm., to 1,000 ml. of water). 1,000 to 1,500 ml. being administered according to the condition of the heart. The endeavor is to make the patient void large quantities of urine and to keep the urine alkaline to a saturated solution of methyl red in alcohol.

Lambert and Patterson, as well as Weiss, have the patient drink large quantities, 6 to 8 glasses daily, of imperial drink, a cream of tartar lemonade. In view of the fact that tartrate is a kidney irritant, as shown by Salant and his co-workers, and that in my experiments on rabbits, potassium bitartrate proved worthless as an antidote, it seems that a lemonade containing sodium acetate might be substituted for it, to advantage.

Lewis and Ri...¹⁹ used a similar treatment in their carefully investigated case, which recovered

TABLE 1.

Summary of Average Lethal Period, when Antidote was given immediately after the administration of the poison:

Mercuric Chloride given alone	██████████
Mercuric Chloride followed by Stannous Chloride.....	██████████
Mercuric Chloride followed by Sodium Bicarbonate.....	██████████
Mercuric Chloride followed by Egg Albumen.....	██████████
Mercuric Chloride followed by Sodium Acetate.....	██████████
Mercuric Chloride followed by Sod. Hypophosphite with Acetate	██████████
Mercuric Chloride followed by Sod. Phosphite with Acetate	██████████
Mercuric Chloride followed by Sod. Hypophosphite with Hydrogen Peroxide.....	██████████

even though completely anuric for 6 days. They did not use the cream of tartar lemonade; and they employed rectal drip injection of sodium bicarbonate saline solution instead of acetate. The chief difference between their treatment and that of the others, consisted in the daily intravenous injection of 500 ml. of a 10 per cent glucose solution, which they used for its protein sparing power, to lessen production and subsequent retention of nitrogenous waste, as well as because of its diuretic qualities. As long as carbohydrate cannot be retained by mouth, such injections seem decidedly indicated, for carbohydrate lessens the acidosis of starvation as well. Lewis and Rivers feel so confident of the value of this treatment that they consider death the only indication for discontinuance of treatment prior to the complete recovery of the patient.

We may conclude, therefore, that the value of reducing agents and of alkaline therapy is at present quite well established in the treatment of corrosive sublimate poisoning, and that the use of these should be added to lavage and albumen administration in the routine treatment of this intoxication.

DISCUSSION.

DR. GRAVES (Chicago): I would like to ask Dr. Fantus a couple of questions. At the end of the hundred days, did these rabbits die, or were they killed? Did you consider that these rabbits were sufficiently recovered at the end of a hundred days, and that there was no further danger of death at the end of that time? Does it make any difference how much water is used in the sodium phosphite?

DR. FANTUS: The animals that lived a hundred days uniformly were in good condition, had gained in weight, and some of these animals were examined

post mortem. They did show scars in the stomach and did have a certain deficiency in the eliminating powers of the kidney, but they would have lived weeks and months afterwards, so that we can say they did recover.

I did not show you some of my results in this study. For instance, the question of the dilution of the poison was carefully investigated, and it was found it did not make any difference whether I administered the poison in one per cent. solution or in one-tenth per cent. solution.

BIBLIOGRAPHY

1. Fantus, B.: Antidotes in Mercuric Chloride Poisoning. *Jour. of Lab. and Clin. Med.*, 1916, i, No. 12.
2. Hall, Wm. A.: A New Antidote for Corrosive Sublimate Poisoning. *Jour. Amer. Pharm. Ass'n*, 1915, iii, 183.
3. Sansum, W. D.: The Principles of Treatment in Mercuric Chloride Poisoning. *Jour. A. M. A.*, March 23, 1918, lxx, 824.
4. Carter, Thomas A.: Mercuric Chloride Poisoning. *Amer. Jour. of Clin. Med.*, April, 1914, p. 314.
5. Carter, Thomas A.: Mercuric Chloride Poisoning. *Chicago Med. Recorder*, 1914, xxxvi, p. 444.
6. Carter, Thomas A.: The Deadly Bichloride. *Critic and Guide*, 1915, p. 266.
7. Linhart, G. A.: On the Instantaneous Transformation of Mercuric Compounds to Calomel and the Application of this Process to Cases of Mercuric Poisoning. *New York Med. Jour.*, June 14, 1913, vol. xcvi, p. 1236.
8. Fantus, B. and Hyatt, E. G.: Antidotes in Mercuric Chloride Poisoning. *Jour. Lab. and Clin. Med.*, ii, August, 1917.
9. Hayward, E. H. and Allen, W. H.: Corrosive Sublimate Poisoning by Means of Antiseptic Tablets. *Jour. A. M. A.*, 1913, xc, 127.
10. Wilms, J. H.: Calcium Sulphide as the Chemical and Clinical Antidote for Mercuric Chloride Poisoning with Experiments and Case Reports. *Jour. Lab. and Clin. Med.*, April, 1917, ii, p. 445.
11. Holm, M. L.: The Use of Sulphides in the Treatment of Mercury Poisoning. *Jour. Mich. State Med. Society*, June, 1917, p. 270.
12. Motter, M. G.: Letter to the Editor, *Jour. A. M. A.*, July 14, 1917, p. 140.
13. Haskell, C. C. and Courtney, R. N.: The Value of Calcium Sulphide in the Treatment of Poisoning by Mercuric Chloride. *Jour. of Lab. and Clin. Med.*, iii, November, 1918, p. 111.
14. MacNider, W. DeB.: A Study of Acute Mercuric

Chloride Intoxication in the Dog with Special Reference to the Kidney Injury. *Jour. Exp. Med.*, April 1918, p. 519.

15. Ellinger, A.: *Beziehungen zwischen der Giftwirkung des Kantharidins auf die Nieren und der Reaktion des Harns.* *Munch. Med. Woch.*, February 21, 1905, lii, No. 8, p. 345.

16. Sallant, W. and Swanson, A. M.: The Influence of Diet on the Toxicity of Sodium Tartrate, and the Protective Action of Diet Against Tartrate Nephritis. *Jour. of Pharm. and Exp. Therap.*, February, 1918, ii, p. 27 and 43.

17. Lambert, S. W. and Patterson, H. S.: Poisoning by Mercuric Chloride and Its Treatment. *Arch. of Int. Med.*, 1915, xvi, p. 865.

18. Weiss, H. B.: Treatment of Mercuric Chloride Poisoning. *Jour. A. M. A.*, 1916.

19. Lewis, D. S. and Rivers, T. M.: Chemical Studies on a Case of Bichloride Poisoning. *Bull. of Johns Hopkins Hosp.*, July, 1916, xxvii, p. 193.

THE PROPHYLACTIC USE OF PITUITRIN IN NOSE AND THROAT OPERATIONS UNDER GENERAL AND LOCAL ANESTHESIA*

SAMUEL SALINGER, M. D.

CHICAGO

The action of extracts of the infundibular portion of the hypophyseal gland on the circulation has been well established through the investigations of Schaefer and Oliver, Howell, Houghton and Merrill, Beck and O'Malley, Klotz, Wiggers and others, and may be briefly summarized as follows:

1. The blood pressure is raised from five to thirty-five millimeters within a few minutes through direct stimulation of the muscle coats of the arterioles.

2. This increase in blood pressure is prompt and the fall to normal, on the contrary, very gradual.

3. Due to the constriction of the arterioles the actual size of the various organs of the body is diminished with the rise in blood pressure. The kidneys are the only exception to this rule, as they become enlarged upon receiving the pituitary extract and the output of urine is increased.

4. The heart, according to the majority of investigators, is slowed down, probably due to direct depression of the heart muscle and there is a diminution in the amplitude of the heart's excursions as demonstrated by Wiggers. Also there is a peculiar grouping of the heart-beats in periods of two or more. All of these manifestations are more marked just after the crest in the blood-pressure curve has been passed.

Based upon these facts the employment of pi-

tuitrin in connection with nasopharyngeal surgery was first given an impetus by Cetelli, who reported brilliant results in a number of turbinate and tonsil operations where it had been used either as a prophylactic or for the control of post-operative hemorrhage. His clinical findings were generally corroborated by other operators with the single exception of Donelan who, having employed it in twenty-five cases, reported that he could see no difference in the amount of bleeding than in similar cases where no pituitrin had been used.

In 1915 Kahn and Gordon reported their results in a series of 100 cases, mostly children, where they had used pituitrin as a prophylactic. They paid particular attention to the blood pressure and coagulation time of the blood taken before and after the administration of the agent. They found that the systolic pressure had been increased in 55.31 per cent of the cases, reduced in 36 and unchanged in 8.5 per cent, and that the coagulation time had been reduced in nearly every instance.

A short time ago I took occasion to report the results in a series of 100 cases of my own where pituitrin had been given as a prophylactic and for the control of post-operative hemorrhage. The results, which were considered solely from the clinical point of view, were very gratifying. Briefly, they showed that in 35 tonsillectomies done under local anesthesia, there was only one severe primary hemorrhage, four moderate and 29 slight. Five cases had a post-operative bleeding. In the 53 cases done under general anesthesia there was one severe primary hemorrhage, 16 moderate and 33 slight. There were no secondary or post-operative hemorrhages in this group.

My present report concerns 48 cases where pituitrin was given solely as a prophylactic against hemorrhage and comprises a study not only of the amount of the bleeding, but also of the effect on the blood pressure and coagulation time. The procedure was as follows: Blood pressure and coagulation were taken and followed immediately by a hypodermic of pituitrin, 1 cc. to adults and 0.5 to 1 cc. to children. After a lapse of fifteen minutes the blood pressure and coagulation were again taken and the patient sent to the operating room. As a majority of the cases were operated on in the afternoon, I had the

*Read at the Annual Session of the American Association of Anesthetists, at Chicago, June 11, 1918.

blood pressure taken again on the following morning before the cases were dismissed from the hospital.

The striking features of these experiments showing the action of the pituitrin were the uniform and prompt rise in blood pressure, the consistent lowering of the coagulation time and the absence of post-operative hemorrhage. These we shall consider seriatim.

Blood Pressure—All of the cases, with but one exception, showed a rise in blood pressure which was manifest fifteen minutes after the injection. This increase was maintained in 60 per cent of the cases for as long as 18 hours. At the end of that time 18 per cent of the remainder had reached the same level as below that level. This demonstrates that the action of pituitrin is far from being short-lived, and corroborates the statement of Klotz, who asserted that the increase in blood pressure may be sustained for as long as 24 hours. More significant in relation to the anesthesia is the fact that post-operative depression was combated to a great extent through the sustained blood pressure. Pituitrin has been used in a number of surgical conditions for the treatment of shock. Being prolonged in action, therefore, it exerts a two-fold influence in these nose and throat operations when employed as a prophylactic, both of which are factors that make for a more prompt recovery.

Coagulation Time—Determining the coagulation time of the blood is a more or less variable procedure because of the variety of methods that may be employed and the difference in judgment as to the exact moment when the coagulation may be considered complete. To be absolutely correct and avoid mixing the blood with tissue juices as in skin punctures, one would have to take the blood directly from a vein. In the present series, this was not feasible, and we had to resort to the old-fashioned ear-puncture, inaccurate though it may be, for the determination of the absolute coagulation point. However, the method by which this is determined is really immaterial for comparative purposes as long as the same method is employed in each case on both occasions, the punctures made in the same manner, a

free flow of blood established without massaging the tissues and drops of equal size examined. These precautions were observed and the results showed definitely a decrease in coagulation time of from $\frac{1}{2}$ to 5 minutes. The slowest coagulating blood (case No. 9), which took nine minutes, was reduced to four minutes by the pituitrin. There was only one case in which the coagulation was unaffected (case No. 18), although this case showed an average rise in blood pressure with a return to normal within eighteen hours.

Primary Hemorrhage—The amount of blood lost at the time of operation was none or ation was none or slight in 74 per cent and moderate in 74 per cent and moderate in 26 per cent of all cases. In relation to the anesthesia, of fifteen cases done under ether, ten were accompanied by slight and five by moderate bleeding, of which one was controlled by ligature and the other four by pressure. Of thirty-three cases done under local anesthesia, twenty-five showed a slight and eight a moderate bleeding, all of which were controlled by direct pressure.

Post-Operative Hemorrhage—There was only one case where post-operative bleeding was noted, occurring eight hours after a moderate primary bleeding in a young woman of eighteen, whose tonsils were removed under local anesthesia. This patient, by the way, showed a rise in blood pressure under the influence of pituitrin from 119 S. 87 D. to 130 S. 98 D., lasting until the following morning, when the readings were 127 S. 90 D. Her coagulation time has been reduced from four to three minutes. Aside from this case there was only one other that had a clot form in the tonsillar fossa, the remainder being entirely free from blood.

Considering the series as a whole, thirteen of the forty-eight cases showed a moderate primary hemorrhage and thirty-five only a slight bleeding. I employ the latter term as referring to a bleeding that ceases promptly after the wound has been made and requires no topical application of any sort. Of the thirteen moderate hemorrhages, eight were venous and easily controlled by direct sponge pressure. The other five were distinctly arterial, the spurters being either clamped or

No.	Name	Age	Operation	BLOOD PRESSURE			COAGULATION TIME	
				Before Injection	15 Min. After Injection	18 Hours Later	Before Injection	15 Min. After Injection
1	T. S.	24	Tonsil	135 S. 100 D.	152 S. 118 D.	130 S. 90 D.	5'	2'
2	D. S.	22	Septum	134 S. 96 D.	142 S. 102 D.	115 S. 85 D.	4' 15"	3'
3	D. F.	26	Tonsils	120 S. 90 D.	130 S. 98 D.	125 S. 94 D.	5' 50"	3' 10"
4	L. B.	21	Tonsils	115 S. 87 D.	120 S. 92 D.	120 S. 94 D.	3'	1'
5	A. H.	20	Tonsils	125 S. 96 D.	139 S. 98 D.	130 S. 95 D.	9'	4'
6	F. S.	28	Septum and Mid. Turb.	120 S. 85 D.	130 S. 92 D.	120 S. 90 D.	5'	3' 30"
7	L. S.	4	Tonsils and Adenoids	85 S.	98 S.	90 S.	2'	1' 15"
8	A. L.	30	Antrum	135 S. 100 D.	142 S. 110 D.	138 S. 105 D.	4' 30"	1' 30"
9	M. B.	11	Tonsils and Adenoids	103 S. 72 D.	110 S. 90 D.	105 S. 80 D.	3'	2' 35"
10	F. M.	29	Tonsils	115 S. 87 D.	128 S. 95 D.	120 S. 90 D.	6' 30"	2' 30"
11	R. S.	21	Septum	100 S. 75 D.	125 S. 90 D.	118 S. 82 D.	5' 15"	2'
12	M. S.	35	Tonsils	110 S. 82 D.	115 S. 90 D.	112 S. 83 D.	4' 35"	1' 30"
13	C. T.	25	Tonsils	115 S. 88 D.	120 S. 90 D.	113 S. 88 D.	3'	1'
14	E. W.	17	Tonsils	122 S. 88 D.	130 S. 96 D.	117 S. 86 D.	4'	2' 30"
15	A. W.	10	Tonsils and Adenoids	100 S. 80 D.	108 S. 84 D.	102 S. 80 D.	2' 30"	1' 10"
16	D. B.	22	Septum	132 S. 100 D.	138 S. 105 D.	130 S. 100 D.	3' 30"	1' 15"
17	H. L.	28	Tonsils	130 S. 95 D.	140 S. 100 D.	132 S. 97 D.	6'	2' 15"
18	R. Z.	17	Tonsils	100 S. 88 D.	108 S. 93 D.	100 S. 88 D.	3'	3'
19	I. C.	29	Septum	115 S. 90 D.	123 S. 92 D.	120 S. 90 D.	3'	2' 15"
20	M. M.	19	Tonsils	120 S. 90 D.	122 S. 94 D.	104 S. 82 D.	6' 30"	2'
21	J. B.	19	Tonsils	115 S. 85 D.	120 S. 87 D.	120 S. 88 D.	5'	1' 30"
22	M. L.	38	Tonsils	122 S. 90 D.	138 S. 97 D.	122 S. 92 D.	2' 30"	1'
23	M. B.	23	Tonsils	110 S. 82 D.	116 S. 88 D.	105 S. 80 D.	4'	2' 30"
24	G. M.	34	Tonsils	130 S. 92 D.	142 S. 100 D.	135 S. 95 D.	5'	3'
25	L. R.	24	Tonsils	120 S. 90 D.	126 S. 92 D.	118 S. 87 D.	4'	1' 15"
26	O. G.	20	Tonsils	100 S. 75 D.	115 S. 80 D.	100 S. 75 D.	6'	1' 45"
27	A. O.	27	Septum	118 S. 93 D.	130 S. 95 D.	120 S. 90 D.	3'	1'
28	D. M.	16	Tonsils	117 S. 82 D.	120 S. 85 D.	117 S. 80 D.	2'	1'
29	J. G.	15	Tonsils	117 S. 88 D.	123 S. 90 D.	120 S. 90 D.	4'	1' 25"
30	E. B.	15	Tonsils	108 S. 82 D.	110 S. 80 D.	112 S. 80 D.	2'	1' 30"
31	A. B.	38	Tonsils	132 S. 95 D.	140 S. 98 D.	130 S. 90 D.	3'	2'
32	A. F.	17	Tonsils	122 S. 88 D.	130 S. 90 D.	120 S. 90 D.	4' 20"	3'
33	C. C.	27	Septum	120 S. 88 S.	130 S. 94 D.	124 S. 90 D.	2'	1' 30"
34	R. S.	30	Tonsils	142 S. 102 D.	135 S. 98 D.	135 S. 97 D.	2' 15"	1' 30"
35	E. E.	33	Septum	124 S. 90 D.	128 S. 96 D.	124 S. 90 D.	2' 30"	1' 50"
36	M. M.	43	Tonsils	140 S. 100 D.	148 S. 100 D.	Not Taken	3' 50"	2'
37	H. L.	14	Tonsils	115 S. 80 D.	123 S. 85 D.	118 S. 82 D.	4'	2' 30"
38	A. P.	20	Tonsils	125 S. 92 D.	138 S. 98 D.	138 S. 93 D.	3'	1' 25"
39	S. G.	24	Tonsils	133 S. 94 D.	147 S. 99 D.	140 S. 90 D.	4'	1' 35"
40	G. O.	9	Tonsils	100 S.	116 S.	99 S.	4' 30"	2' 30"
41	M. S.	19	Tonsils	126 S. 84 D.	140 S. 94 D.	130 S. 86 D.	2'	1' 40"
42	F. B.	23	Tonsils	122 S. 90 D.	135 S. 95 D.	124 S. 92 D.	3'	1' 50"
43	G. B.	18	Tonsils	119 S. 87 D.	130 S. 98 D.	127 S. 90 D.	4'	3'
44	J. D.	26	Tonsils	120 S.	130 S.	123 S.	6'	2' 30"
45	R. G.	21	Tonsils	120 S. 90 D.	135 S. 98 D.	128 S. 92 D.	4'	1' 30"
46	L. B.	32	Tonsils	132 S. 94 D.	145 S. 99 D.	140 S. 95 D.	3'	1' 25"
47	M. A.	23	Tonsils	122 S. 90 D.	140 S. 98 D.	130 S. 92 D.	2'	1' 30"
48	H. P.	20	Tonsils	116 S. 80 D.	125 S. 84 D.	123 S. 86 D.	Not taken	

Primary Bleeding	Secondary Bleeding	Anesthesia	Remarks	No.
Venous requiring pressure	None	Cocaine		1
None	None	Quinine and Urea		2
Slight	None	Cocaine		3
Slight	None	Ether	Secondary operation	3
Slight	None	Cocaine	Secondary operation	4
Moderate requiring pressure	None	Quinine and Urea		5
None	None	Cocaine		6
Slight	None	Quinine and Urea	Patient has T. B.	6
None	None	Cocaine		7
Slight	None	Ether		7
None	None	Ether		8
Slight	None	Cocaine	Secondary operation	8
Slight	None	Ether		9
Slight	None	Cocaine		10
None	None	Quinine and Urea		10
Slight	None	Cocaine		11
Slight	None	Cocaine		12
Slight	None	Quinine and Urea		12
Slight	None	Cocaine		13
Moderate	None	Quinine and Urea		13
Slight	None	Ether	Took the anesthetic poorly	14
None	None	Ether		15
None	None	Cocaine		16
Profuse venous: required pressure	None	Cocaine	Gagged violently; operation	17
Slight	None	Quinine and Urea	lengthy	17
Slight	None	Cocaine		18
Slight	None	Quinine and Urea		19
Slight	None	Cocaine		20
Slight	None	Quinine and Urea		20
Slight	None	Ether		21
Slight	None	Cocaine		21
Slight	None	Quinine and Urea		22
Slight	None	Cocaine		22
Slight	None	Quinine and Urea		23
Slight	None	Cocaine		23
Slight	None	Quinine and Urea		24
Slight	None	Cocaine		24
One spurter clamped	None	Quinine and Urea		25
Moderate	None	Cocaine		25
None	None	Quinine and Urea		26
Slight	None	Cocaine		27
Slight	None	Ether		28
Slight	None	Cocaine		28
Slight	None	Quinine and Urea		29
Slight	None	Ether		30
Slight	None	Cocaine		31
Arterial: ligature applied	None	Quinine and Urea		32
None	None	Ether		32
Slight	None	Cocaine		33
None	None	Cocaine		34
Slight	None	Quinine and Urea		34
None	None	Cocaine		35
Arterial: controlled by pressure	None	Cocaine		36
Slight	None	Aposthesine		37
Moderate	None	Ether		38
Slight	None	Ether		39
Slight	None	Cocaine		39
Slight	None	Quinine and Urea		40
Slight	None	Ether		40
Slight	None	Cocaine		41
Slight	None	Quinine and Urea		42
Slight	None	Ether		42
Moderate	Slight about 8 hours later	Cocaine		43
Moderate	None	Aposthesine		44
Slight	None	Cocaine	Small clot a few hours later	44
Slight	None	Quinine and Urea		45
Slight	None	Cocaine		45
Slight	None	Aposthesine		46
Arterial: controlled by pressure	None	Cocaine	Had ½ strength HMC before operation	46
Moderate	None	Quinine and Urea		47
	None	Ether		47
	None	Ether		48

compressed. (In one case a ligature was applied.)

The fact that there was only one post-operative hemorrhage (that being a very slight one) is evidence of the efficacy of the prophylactic which is further borne out by the persistence of the action of the pituitrin as shown by the continued elevation of blood pressure.

As to untoward manifestations directly attributable to the pituitrin, the only one noted was the occurrence of uterine contractions in several of the female patients. Some of them complained of "cramps" a short time after the administration of the hypodermic, which lasted fifteen minutes to an hour, but were not severe enough to require any particular attention.

In closing, it must be pointed out that pituitrin is contra-indicated in cases of arteriosclerosis or high blood pressure from other causes.

I desire to express my appreciation to Dr. L. B. Phelps of the staff and Drs. Casserly and Adamo, internes, of the Frances Willard Hospital, for courtesies shown and assistance rendered in the assembling of this series.

25 E. Washington St.

REFERENCES

1. Schaefer and Oliver: *Journal of Physiology*, XVIII. 1896.
2. Howell: *Journal of Exp. Med.*, III. 1895.
3. Houghton and Merrill: *Jour. A. M. A.*, Nov. 28, 1908.
4. Beck and O'Malley: *Amer. Med.*, Oct., 1909.
5. Wiggers: *Amer. Jour. of the Med. Sci.*, April, 1911.
6. Klotz: *Muenchner med. Wochen.* 1911, No. 21.
7. Citelli: *Zeitschr. f. Laryng. u. Rhinol.*, 1913, VI.
8. Donelan: *Jour. of Laryng., Rhin., and Otol.* XXVIII, No. 7.
9. Kahn and Gordon: *Annals of Otol., Rhin. and Laryng.*, 1915, XXIV.
10. Salinger: *Therap. Gaz.*, Jan., 1918.
11. Lee: *Amer. Jour. of Med. Sci.*, CXLV, No. 4.

RELATION BETWEEN PUBLIC HEALTH, TUBERCULOSIS AND MEDICAL EDUCATION*

WALTER B. METCALF, M. D.
CHICAGO

Of all the diseases common to man, tuberculosis is the most widespread and the most deadly. Other diseases, at times, have caused more dismay, more panic and for short periods even wider destruction, but tuberculosis has remained the most constant and the most pestilential of all—the worst scourge of mankind.

What tuberculosis means to the world in deprivation, anguish, grief and degradation cannot be even imagined. Take one family which has

been affected by the disease; study its course from beginning to end; contemplate the havoc wrought and even try to analyze the damage done, financially, physically, socially and mentally; but we cannot read the hearts of those who looked on while the disease was torturing and killing, inch by inch, a loved one. We cannot know the long hope nor fathom the deep despair alternate in the mind of the stricken member, neither can we measure the heroism or estimate the cost to those who stood at the post of duty, year in and year out.

Tuberculosis kills men and women in their prime. Its victims are mostly of the active working age. From the standpoint of the wage earner, they die during the period of their greatest usefulness.

Statistics show that out of every three persons who die between the ages of 20 and 30 years, one of them dies of tuberculosis. That out of every four persons who die between the ages of 30 and 40 years, one of them dies of tuberculosis. That out of every five persons who die between the ages of 40 and 50 years, one of them dies of tuberculosis. That out of every seven persons who die in the United States, one of them dies of tuberculosis. More than 10,000 humans died last year in the state of Illinois of tuberculosis. Many times that number were invalided home, not to mention those who are still struggling in the marts with their impaired efficiency.

To be more specific as to statistics, I will quote from the report of the joint committee making the Medico-Actuarial Mortality Investigation which was issued in 1913. These statistics appeal to me as being more accurate than our state or national statistics because they formed the basis upon which large sums of money were paid. A diagnosis of tuberculosis was not placed in the physician's report, if there was any question or uncertainty about it being the cause of death. The family, not the insurance company, were given the benefit of the doubt.

One of the objects of this investigation was to determine the effect of different diseases upon mortality. It covered the experience of fifty-three old line life insurance companies from 1885 to 1900 inclusive, and embraced a study of the effect of ninety-one different diseases upon mortality. This report gives the result of their investigation. I will quote from the table under the

*Read before the Sixty-eighth Annual Meeting of the Illinois State Medical Society at Springfield, May 22, 1918.

caption, "Death by Causes Among Standard Lives." As you all know, this term "Standard Lives" means that before those men and women were accepted by the insurance company they were examined by competent physicians and declared to be free from disease. Their family history was favorable, they were known to be of good moral character and were considered physically and mentally fit to finance this insurance. In other words, they represented the selected ones and were not the average, and we have a right to assume that they were even better, from a physical standpoint, than the average in the community from which they were selected.

In the table above referred to the committee listed the ninety-one diseases, giving their effect upon mortality by percentages.

Tuberculosis was first in this list. Taking ages of entry 15 to 29 years, the combined death rate from tuberculosis, including men and women, was 26.9 per cent., or nearly 27 per cent. of the total deaths. In this connection, it is of interest to note that the above number of deaths from tuberculosis were admitted, not to mention those cases that unquestionably died of tuberculosis but not admitted, or that died of pneumonia, a cardiac lesion, or some other malady appeared as a complication and was given as the cause of death.

Typhoid fever was second. Accidental death was third. Pneumonia the fourth. And these three combined exceeded the death rate from tuberculosis by only 2 per cent.

Thus we see a constant procession of human beings wending their way to the silent city, victims of tuberculosis—a preventable and curable disease.

Up to very recently, in the eyes of monarchs and in the marts, human beings have been the cheapest of commodities. Their interests, their welfare and especially their health has received low-rate consideration. Today we are on the threshold of a new life; the value of the human is being recognized on every hand. We have no better example of progressive social evolution than is manifested in this vital shifting of position of the standard of national greatness which today can be summarized in the slogan—*man power*. Today nations are measured by their man power.

Today, as never before, commercial interests are considering man power, selfish as those inter-

ests are, yet with it all there is coming a benefit to the humans. For now in many places the wage earner is examined before he is given employment, examined regularly thereafter, provided in the work shop and at the home with the necessities for his physical upkeep, thus aiding in his efficiency, and they have found that it pays in dollars and cents. This movement is of great value to us in meeting the tuberculous problem, but commercializing human health is not enough.

Then there is another factor at work for the same ends—the government, at last, has caught the idea and is trying to help solve the problem.

It is a recognized principle in all civilized communities that it is the function of the government to safeguard its subjects in their life and well being. This responsibility is equally binding, as it affects the human well and the human sick. The well ones are governed by laws affecting their conduct and relation with each other. They are warned and often restrained from the dangers of infection. In a few instances, the sick are provided for by the state in a generous way, but this plication, and was given as the cause of death.

The insane have been cared for by the state for many years. More recently a fuller appreciation of the needs for the epileptics has been met, but the government has been slow to appreciate the tuberculous problem. Money invested in the care of the insane will bring little or no return. Money invested in the epileptics will bring little or no return. Money invested in the tuberculous citizen will bring a large return, if invested early, and the value of the investment—the returns—will be in ratio with its early use. For prevention it will yield the greatest return. If spent upon the incipient cases the return will still yield compound interest, but, alas, up to the present most of the money has been invested in caring for the terminal cases and spent in the potter's field.

We have been meeting the tuberculous problem much in the same way that we have been meeting the liquor problem, namely, spending our money for the care of the drunkard and his dependents, instead of for prevention.

Prevention is the order of today. In truth, it may be said that the signal success of the present age in its fight against race devastating influences is to be attributed almost entirely to the recognition of the importance of prevention.

Never in the history of the world has the government asked so much, or demanded so much of humanity. And, if humanity now being put in the balance is found wanting, who is to blame?

We hear talk about state health insurance. Think, will you, of a state government insuring its citizens against its own product of neglect.

Tuberculosis in the animal industries receives more consideration from our state and national government to day than is being given to fight this disease among humans.

We are pleased to note that the government is trying to make some provision for the tuberculous cases sent home from the army. It is estimated that 600 to 700 have been returned to Illinois, up to this time, and we have not started to get the returns from the active front; no one can estimate even what they will be, but it is certain that the percentage will be a great increase over our normal percentage.

Here we have briefly presented the tuberculous problem and the responsibility of the state. If this problem is ever to be solved, and the state made to realize its responsibility, the proper and only compelling force lies in the medical profession, organized and individually, and I place this responsibility squarely upon the shoulders of the medical profession—the *health conscience of humanity*. Up to the present time the medical profession has failed, and the best evidence of this failure is the fact that more than 10,000 humans died in Illinois last year, that nearly 27 per cent. of the total death rate among standard lives in these United States, ages 15 to 29, was due to this preventable and curable disease.

Dare we hope for a better day, for better conditions? No, not until we strike at the root of the cause for this failure on the part of the medical profession. In my opinion, this failure on the part of the medical profession is due to faulty medical education. *The greatest crime committed today against the human race, the dead, the living and the unborn, is this neglect which I place at the door of our medical colleges.*

Tuberculosis, as such, is not taught in our medical colleges today. Instead, it is referred to as a part of, or secondary to some other subject. The student mind must be focused upon *this, the greatest problem, outside of the war, confronting us, for the preservation of the human race*. The medical student must be made to know the im-

portance of tuberculosis, from a physical, financial, social and mental standpoint; taught that it is a preventable disease, and that the success in treating the disease is in ratio with its early diagnosis. He must learn the facts in such a way that he will be able to compel recognition of the importance of tuberculosis.

A review of the catalogues issued by the class A medical colleges for 1917 evidences that one college dignifies the subject by having a clinical professor of tuberculosis, and five or six other colleges give the subject honorable mention.

From the circular of information—the catalogue—of one of the class A medical colleges of Illinois, I note that they have a Department of Laryngology and Otology, with the following officers of instruction:

- 3 Professors.
- 7 Assistant Professors.
- 6 Instructors.
- 3 Assistants.

A total of 1.2 majors is required in this department, and it is recommended that more be taken if time permits.

In this same medical college, under the caption, "Medical Tuberculosis," they have one assistant professor in Medicine and two assistants, giving a clinical and conference course with a total credit of 0.6 major. This course is optional. This is the only medical college in the state giving any credits, optional or required, for instruction on tuberculosis. In our state institution I am advised by the students that last year they received three lectures on tuberculosis under medicine.

Think, will you, of a medical college requiring 1.2 majors in laryngology and otology and 0.6 major credit in tuberculosis, and this course optional.

Now let us look at the list of ninety-one diseases as they affected the mortality of the "Standard Lives," as represented in the Medico-Actuarial Investigation, and we see that tuberculosis heads the list with 26.9 per cent., or twenty-seven out of every 100 deaths was due to tuberculosis. Again, we look at this list of ninety-one diseases in their order as they affected mortality, and we see typhoid fever is second, accidents third, pneumonia fourth, and so on down the list we go, and we find not one death was due

to disease of the larynx; not one death was due to disease of the ear.

Over one-fourth of the total death rate among these "Standard Lives" was due to tuberculosis, and not one death was due to a diseased larynx or ear. In other words, from the standpoint of statistics, tuberculosis was first. Total death rate, 26.9 per cent; throat and ear diseases, no deaths. Tuberculosis and ninety other diseases more hazardous to life than diseases of the larynx and ear combined.

From the standpoint of medical education, laryngology and otology credits 1.2 majors, tuberculosis 0.6 major, and this course is optional. Two times as much credit given the student for laryngology and otology as in tuberculosis; *one required, the other only optional*—and this the only medical college in the state of Illinois giving any credits for work done in tuberculosis.

It is my opinion that the greatest need should be the governing factor in determining the time spent, and the prominence given various subjects in our medical education. Where the greatest need—there should be established the largest department. The largest department in a medical college should be the Department of Tuberculosis.

FORCING ECONOMY ON US

One by one the economies which the Government asked the people of the United States to practice, away back in the beginning of the War Savings Campaign, are being forced upon them because of the pressing needs of the war.

Fuel and materials are being denied non-essential industries. Limits are being placed upon the amounts of coal, sugar or flour individuals may purchase. Wool supplies are being taken over for army purposes, and civilians forced to use shoddy. The latest and most drastic action is the government order that automobiles may not be used on Sundays. In all Europe, belligerent or neutral, there is not a pleasure automobile in use, and it is possible that, before this war is won, the United States may come to the same pass.

The principal result of the scarcity which the war has caused has been an enormous advance in prices of all articles which remain for general commerce. The seller is now king. He is able to name his own prices, regardless of original cost of what he has to sell. The result has been profiteering on a large scale. It is the individual consumer who suffers, not the army and navy, for the Government, very largely, has been able to fix prices on commodities which it buys.

But still the individual has not learned the lesson. He follows the prices up and up, and strives to find for his own use all the luxuries to which he was accustomed. The mechanic, through great increases in wages, has been able to do so, but the salaried man and the man who lives on a fixed income obtained through investments has found the task increasingly difficult.

The time now has come when economy not only is compulsory in some lines, but should become universal. War times should and must bring a revision of ideas of what are necessities. Of course the people must be well and wholesomely fed, comfortably housed and warmly clad, if they are to retain their morale and physical stamina. But that is about all that is absolutely necessary, especially when they realize that their sacrifice is to be but temporary and is to help bring victory that will make the world a better place for all mankind.

There is no necessity for us following the prices up and up until they become absolutely prohibitive. We can, all of us, do without. We should be glad to deny ourselves to hasten victory. By lessening the demand for all things which are not absolutely necessary to maintain life and health in war time we will force the producers into the lines in which demand remains—food and fuel—and thus increase the supply and lower the prices of absolute necessities.

The War Savings Campaign offers the best and surest way to force these economies. If we put our money, regularly and methodically, into these handy Government securities, we cannot be spending it for something which we might it possible to do without. We are not only lending the funds necessary to the winning of the war, but are taking away the competition with the Government for materials and supplies.

And, not only that, when we purchase War Savings Stamps we are laying aside money which will be due in a few years, after the war is over and normal prices have returned, which will enable us to enjoy, when enjoyment is legitimate, more of the good things of life than we have ever enjoyed before.

The season of the year is approaching when, normally, we make most of our unnecessary expenditures. It is the holiday season of good cheer, when we express our love for those dear to us with gifts, often frivolous, but appropriate to the season.

This year the appropriate gift will be the War Savings Stamps. It will be a sign of our love for our country, our relatives and our friends.

Let us make this Christmas a patriotic Christmas, and begin to plan for it now.

IS THIS A HOSS ON SOMEONE?

Dr. A. C. S. left the first of the week for Chicago where he will spend two weeks taking special courses in eye, ear, nose and throat work. A part of this work will be under Dr. J. R. Hossman, a specialist, whose work is the fitting of glasses.—*The Aledo Record*.

ILLINOIS MEDICAL JOURNAL

Published monthly by The Illinois State Medical Society under the direction of the Publication Committee of the Council.

GENERAL OFFICERS, 1918-19

PRESIDENT.....	E. W. FIEGENBAUM, Edwardsville
PRESIDENT-ELECT.....	J. W. VANDERSLICE, Chicago
FIRST VICE-PRESIDENT.....	H. C. BLANKMEYER, Springfield
SECOND VICE-PRESIDENT.....	CLARA SEIPPEL, Chicago
TREASURER.....	A. J. MARKLEY, Belvidere
SECRETARY.....	W. H. GILMORE, Mt. Vernon
(Ex-officio Clerk of the Council)	

THE COUNCIL

First District		Alternate
Councilor		
E. Windmueller, Woodstock	C. E. Crawford, Rockford	
Second District		
Edwin S. Gillespie, Wenona	J. H. Edgcomb, Ottawa	
Third District		
Clyde D. Pence, Chicago	S. J. McNeill, Chicago	
Fourth District		
T. W. Gillespie, Peoria	Coleman J. Eads, Oquawka	
Fifth District		
Charles S. Nelson, Springfield	F. C. Gale, Pekin	
Sixth District		
Henry P. Beirne, Quincy	L. O. Frech, White Hall	
Seventh District		
Chas. F. Burkhardt, Effingham	W. W. Murfin, Patoka	
Eighth District		
Cyrus E. Price, Robinson	H. N. Rafferty, Robinson	
Ninth District		
Charles W. Lillie, E. St. Louis	W. F. Grinstead, Cairo	
Second Assistant Secretary		

Clyde D. Pence, *Chairman*, 3338 Ogden Avenue.
Send original articles and all communications relating to advertisements and mailing list to Dr. Clyde D. Pence, Editor, 3338 Ogden Avenue.

Membership correspondence to Dr. W. H. Gilmore, Mt. Vernon, Ill.

Society proceedings and news items to Dr. Henry G. Obls, *Managing Editor*, 927 Lawrence Avenue, Chicago.

Contributors will submit all copy for publication typewritten on standard size paper and double spaced. Copy not complying with this rule will be returned, if convenient.

MEDICO-LEGAL COMMITTEE

WILLIAM O. KROHN.....	Chicago
E. E. EDMONDSON.....	Mt. Vernon
D. R. MACMARTIN.....	Chicago
F. C. FISHER.....	Bloomington
C. B. KING, <i>Chairman</i>	Chicago
GEORGE STACY, <i>Secretary</i>	Jacksonville

GENERAL COUNSEL

ROBERT J. FOLONIE.....	39 S. La Salle Street, Chicago
------------------------	--------------------------------

State society will pay no bills for legal services except those contracted by the Committee. Notify the Chairman at once. Do not employ attorneys.

SEPTEMBER, 1918

Editorial

DIPHTHERIA VACCINATION

We are now being advised by the Health Departments of New York, Chicago and probably other large cities to vaccinate children against diphtheria.

This method of prevention of diphtheria is not entirely new; neither is it old enough to place implicit confidence in it. We presume that war conditions have prevented extensive work in this line by the research laboratories. The work done

by the New York and Chicago Health Departments would indicate a very successful immunization against this infection which is so fatal to children.

So many new things supposedly sure of results and which do not stand the test of time are handed to the medical profession that entire confidence should not be placed until positively proven. So far as we have noted there have been no serious results in the use of the vaccine. A slight febrile reaction results in some cases. Time enough has not elapsed to tell just how long the immunity lasts. It is predicted that it will last at least several years.

More definite and complete data should be given the profession. We should know how many children have thus far been vaccinated; if any, the number of serious results from the vaccinated. Particularly we should know definitely and positively how many children have contracted diphtheria after being vaccinated, and the period of time elapsing between the date of vaccination and the date of diphtheria infection.

We hope this method proves to be as successful as its supporters think, and we hope physicians interest themselves in this method of immunization. It is in no way a curative agent as anti-toxin is, and to be effective it must be used at least a month before exposure to infection. If this immunization is what is now claimed for it, school life of children may be made free from one of its menaces, and the anxiety of many parents will be relieved.

TO PHYSICIANS OF AMERICA

Surgeon General Gorgas has called for 1,000 graduate nurses a week—8,000 by October 1st.

Twenty-five thousand graduate nurses must be in war service by January 1st—in the Army Nurse Corps, in the Navy Nurse Corps, in the U. S. Public Health Service in Red Cross war nursing.

This involves withdrawal of many nurses from civilian practice and necessitates strict economy in the use of all who remain in the communities.

You can help get these nurses for our sick and wounded men by:

Bringing this need to the attention of nurses.

Relieving nurses where possible wholly or in part from office duty.

Seeing to it that nurses are employed only in cases requiring skilled attendance.

Insisting that nurses be released as soon as need for their professional service is ended.

Seeing that your patients use hospitals instead of monopolizing the entire time of a single nurse.

Encouraging people to employ public health nurses.

Instructing women in the care of the sick.

Inducing high school and college graduates to enter the Army School of Nursing or some other recognized training school for nurses.

Encouraging nurses to go to the front involves real personal sacrifice and added work on the part of the physicians whose duty it is to maintain the health of our civilian second line defense.

But the men who are fighting for their country in France need the nurses.

Department of Nursing,

AMERICAN RED CROSS,

Washington, D. C.

A SPECIAL APPEAL

To the Presidents, Secretaries and Members of the County Societies of the 9th Councillor District:

Esteemed Colleagues: While I realize that under existing conditions the doctors who remain at home are often pressed for time, and many find it difficult to attend society meetings, I must still remind them that at no time in the history of medicine in Illinois has there been greater need for this sacrifice..

The country is in the midst of the greatest war ever known, and our patriotic brothers in service have made greater sacrifices than any of those at home can ever make, and our duty to them, to ourselves, and to our clientele, demands that we take advantage of every opportunity to prepare ourselves fully for the service we can render.

It is not enough for us to be satisfied with caring for those who call upon us for aid; there are many avenues in which our helpful advice can be made acceptable; many forms of activity in which doctors are especially useful; and should we fail to offer ourselves cheerfully for such service we are not living up to the traditions of the medical profession.

The buying of bonds and thrift stamps is a poor measure of our patriotism, and of our loyalty

and devotion to our professional duties. This is rather an evidence of our "thrift." These are "investments," and as such are far better and safer than many of those made by doctors, who are notoriously "easy marks."

The most effective work of the doctors during this trying period is through organized medicine; through the medical societies; and I feel that now is the time when attendance at meetings is of the highest importance. When affiliating with the organized profession is an imperative duty, and I would urge all members to attend as many meetings as possible, and to try to have as many of those who are not affiliates get into the societies.

But little time is lost while attending meetings and the benefits far outweigh the loss. Dr. Doan has this well expressed in the *Macoupin County Bulletin* motto, which says: "There is no time lost in whetting your scythe."

Your Councillor is ready and willing to do all he can to aid in the work of the District, and solicits correspondence regarding the needs of the County Societies. I would be especially grateful for any information regarding enlistments in the Medical Reserve Corps.

Sincerely yours,

C. W. LILLIE,

Councillor 9th Councillor District.

VOLUNTEER MEDICAL SERVICE CORPS

STATEMENT BY DR. FRANKLIN MARTIN, MEMBER OF
ADVISORY COMMISSION AND CHAIRMAN OF
GENERAL MEDICAL BOARD, COUNCIL OF
NATIONAL DEFENSE

FOREWORD

The Volunteer Medical Service Corps was authorized by the Council of National Defense on January 31, 1918. Under this authorization the membership of the corps consisted of all physicians who because of overage, physical disability, dependents and essential home needs were not eligible for service in the Medical Reserve Corps of the Army or Navy.

ENLARGED SCOPE OF THE ORGANIZATION

On August 5th the Council of National Defense authorized a change in the scope of the organization and an increase and amplification of its Central Governing Board. Membership in the Corps as now authorized, makes eligible to the Corps every legally qualified physician, including women physicians, holding the degree of Doctor of Medicine from a legally chartered medical school, without reference to age or physical disability, provided he or she is not already commissioned in the Government Service. This or-

ganization has now the approval of the President as indicated in the following letter:

THE WHITE HOUSE

Washington, August 12, 1918.

My dear Mr. Martin: I have received your letter of August 5, laying before me the matured plan for the reorganized Volunteer Medical Service Corps, of which you ask my approval. This work was undertaken by you under the authority of the Council of National Defense; it has had great success in enrolling members of the medical profession throughout the country into a volunteer corps available to supply the needs of the Army, Navy and Public Health Service. In co-operation with the General Medical Board of the Council of National Defense, the strong governing board of the reorganized corps will be able to be of increasing service, and through it the finely trained medical profession of the United States is not only made ready for service in connection with the activities already mentioned, but the important work of the Provost Marshal General's office and the Red Cross will be aided and the problems of the health of the civilian communities of the United States assured consideration. I am very happy to give my approval to the plans which you have submitted, both because of the usefulness of the Volunteer Medical Service Corps and also because it gives me an opportunity to express to you, and through you to the medical profession, my deep appreciation of the splendid service which the whole profession has rendered to the nation with great enthusiasm from the beginning of the present emergency. The health of the Army and the Navy, the health of the country at large, is due to the co-operation which the public authorities have had from the medical profession; the spirit of sacrifice and service has been everywhere present and the record of the mobilization of the many forces of this great Republic will contain no case of readier response or better service than that which the physicians have rendered.

Cordially and faithfully yours,

(Signed) WOODROW WILSON.

Dr. Franklin Martin,
Advisory Commission,
Council of National Defense.

At a meeting of the Central Governing Board, held on Friday, August 2nd, it was moved by Dr. Sawyer, seconded by Dr. Martin, that the Central Governing Board shall consist of the present Central Governing Board (excepting Sherck, Bradford, and Brophy) and others as follows:

Surgeon General William C. Gorgas, U. S. A.
Surgeon General William C. Braisted, U. S. N.
Surgeon General Rupert Blue, U. S. P. H. S.
Provost Marshal General E. H. Crowder.

Dr. Franklin Martin, Chairman of Committee on Medicine and Sanitation, Council of National Defense.

Dr. Edward P. Davis, President, Volunteer Medical Service Corps.

Dr. John D. McLean, Vice-President.
Dr. Charles E. Sawyer, Secretary.
Admiral Cary T. Grayson, U. S. N.
Dr. F. F. Simpson.
Dr. Frank Billings.
Dr. H. D. Arnold.
Mr. W. Frank Persons—Red Cross.
Dr. Victor C. Vaughan.
Dr. William H. Welch.
Dr. Robert L. Dickinson, Chief of Staff's Office.
Colonel R. B. Miller, U. S. A., Chief of Personnel Division.
Surgeon R. C. Ramsdell, U. S. N., Chief of Personnel Division.
Colonel James S. Easby-Smith, Executive Officer.
Dr. Joseph Schereschewsky, Assistant Surgeon General (Personnel).
Dr. C. H. Mayo or W. J. Mayo.
Dr. William Duffield Robinson.
Dr. George David Stewart.
Dr. Duncan Eve, Sr.
Dr. Emma Wheat Gillmore.

GENERAL PLAN

The Volunteer Medical Service Corps is exactly what its name indicates. It is a gentleman's agreement on the part of the civilian doctors in the United States who have not yet been honored by commissions in the Army or Navy, and a representative board of governors consisting of officials of the Government associated with lay members of the profession, in which the civilian physician agrees to offer his services to the Government if required and asked to so do by the Governing Board.

It is a method of recording all physicians who are not yet in service and classifying them so that their services when required will be utilized in a manner to inflict as little hardship on the individual as possible. It is a method by which every physician not in uniform will be entitled to wear an insignia which will indicate his willingness to serve his Government.

As more than sixty per cent. of the physicians of the country will be utilized in caring for the industries at home and the health of the home people, this large percentage of necessity will be expected to maintain their home status and continue their ordinary professional work.

COUNCIL OF NATIONAL DEFENSE

MEDICAL SECTION WASHINGTON

The Council of National Defense authorizes the following:

Many thousands of blanks for enrollment of the legally qualified men and women physicians of the country in the reorganized Volunteer Medical Service Corps are being mailed by the Chairman of the General Medical Board of the Council of National Defense. With the blank are enclosed a letter and a folder giving all details as to the organization.

The blank which applicants are asked to fill out reads:

APPLICATION FOR MEMBERSHIP IN THE VOLUNTEER
MEDICAL SERVICE CORPS AUTHORIZED BY COUNCIL
OF NATIONAL DEFENSE

Approved by the President of the United States
(Spaces for date, full name, street, city and state addresses.)

1. Date of birth.
2. Place of birth.
3. If foreign born, when did you become a resident of the United States?
4. When and where naturalized? How?
5. Are you single, married, widowed, or divorced? Nationality? Color? Height? Weight?
6. State high school, academy, college, or university you have attended, with dates of attendance, graduation, and degree received.
7. Give all literary or scientific degrees you have received and names of institutions granting them, with dates.
8. With what languages or branches of science are you familiar?
9. When and where graduated in medicine?
10. When and where licensed to practice medicine?
11. Name principal medical societies of which you are a member. (Do not abbreviate.)
12. What specialty of medicine do you practice?
13. Proportion of time devoted to specialty?
13. Proportion of time devoted to specialty?
14. Clinical experience in specialty? Institution? No. of years?
15. State all past hospital services. Hospital. Capacity. Date.
16. Present hospital connections. Hospital. Department. Capacity.
17. School and teaching positions occupied in the past. School. Capacity. Date.
18. School and teaching positions now occupied. School. Department. Capacity.
19. State all past experience in industrial or railroad medicine and surgery. Name and address of plant. Type of service (whether medical, surgical, occupational diseases, accident work, contract practice for families of workmen, etc.) Duration of service.
20. State all present connections with industries or railroads. Name and address of plant. Type of Service (whether medical, surgical, occupational diseases, accident work, contract practice for families of workmen, etc.) Time devoted to each plant.
21. State military, naval or public health experience you have had.
22. Are you a Federal, State, County, or Municipal officer? (State exact designation of your office.)
23. Are you engaged in enterprises other than medicine? If so, what?
24. Have you followed any occupation, medical or otherwise, not already noted?
25. Have you previously been an applicant for

entry into the United States Service? Service. When. Where. Result. (If rejected, state why.)

26. I have not applied for appointment in the Medical Reserve Corps of the Army, the Naval Reserve Force, or the Public Health Service owing to—(Check reason).

- a. Physical disability. (State disability in detail.)
 - b. Over age (55). State age in years.)
 - c. Essential institutional need. Name of institution. Position. Name and address of chief executive.
 - d. Essential community need. Approximate population. Number of physicians now practicing in your community.
 - e. Essential to Health Department. Name of department. Position. Name and address of chief of department.
 - f. Essential to industries. Name of plant. Position. Name and address of chief executive.
 - g. Essential to medical school. Name of medical school. Position. Name and address of dean.
 - h. Essential to Local or Medical Advisory Boards. Name and address of Board. Position.
 - i. Dependents. Number of dependents, including self but not employees. What proportion of your income or that of your dependents is derived from sources other than the practice of your profession? Do other persons contribute to the support of your dependents? Have you or your dependents other immediate relatives who could provide support for your dependents?
 - j. Sex. (State your sex.)
 - k. Religious conviction, not a citizen, or other reasons. (State reason.)
27. Are you available for any of the following services:
- a. Consultant. Medical Service. Surgical Service. Public Health Service. Special Service—What?
 - b. Institutional. Laboratory. Administrative. Medical Service. Surgical Service. Special Service—What?
 - c. Medical service for industries. Part time. Own community. Other communities. Kind of work.
 - d. Local or Medical Advisory Boards.
 - e. Reclamation of registrants rejected for physical unfitness.
 - f. Services to needy families and dependents of enlisted men.
 - g. Sanitation.
 - h. Miscellaneous service.
28. Check the Governmental service in which you would prefer to serve, if selected.
- a. Medical Reserve Corps of the Army.
 - b. Naval Reserve Force.
 - c. Public Health Service.

NOTE: Whenever practicable, your preference will be given consideration. However, the exigencies of war may render it necessary to ask you to do service other than that indicated as your choice.

29. Personal references. (Name three, at least one physician.)

I hereby make application for membership in the Volunteer Medical Service Corps of the United States. I certify that, to the best of my knowledge and belief, the answers to the preceding questions are true and correct in every respect. I pledge myself to abide by the rules and regulations of the Corps; to apply for a commission in the Medical Reserve Corps of the Army, the Naval Reserve Force, or for appointment in the Public Health Service when called upon to do so by the Central Governing Board; and to comply with any request for service made by the Central Governing Board.

(Signature.)

(Present post-office address.)

An outline of the purpose and scope of the Volunteer Medical Service Corps, contained in the folder, is as follows:

Volunteer Medical Service Corps organization:

1. Provides means for obtaining quickly men and women for any service required.
2. Furnishes recommendations and necessary credentials to assure the best of medical service, both military and civil.
3. Determines beyond question the attitude of the individual toward the war.

OBJECT OF THE CORPS

1. Placing on record all medical men and women in the United States.
2. Aiding Army, Navy, and Public Health Service in supplying war medical needs.
3. Providing the best civilian medical service possible.
4. Giving recognition to all who record themselves in Army, Navy, Public Health activities, or civilian service.

WORKING PLANS

All matters pertaining to the organization will be under the direction of a Central Governing Board, authorized by the Council of National Defense and approved by the President of the United States, and its affairs will be conducted from the general headquarters of the Volunteer Medical Service Corps at Washington, D. C., under the Council of National Defense.

OPERATING SYSTEM

1. Central Governing Board of 25.
2. Forty-nine state executive committees.
3. One representative in each county in every state.

NOTE: (a) All men to be appointed to state and county committees preferably over 55.

(b) Each state executive committee to consist of five in the smaller states and one additional member in each of the larger states in proportion to each 1,000 medical inhabitants (to be nominated by state committees, medical section, Council of National Defense, from among their own members).

(c) Each county of 50,000 population or under should have one representative. All counties having over 50,000 population should have one additional county representative for each 50,000 population or fraction thereof. All county representatives to be nominated by the state executive committee.

DUTIES

Central Governing Board—To receive and pass upon all appointments.

State Governing Boards—To receive facts from county representatives and make recommendations to Central Governing Board.

County Representatives—To submit facts to state committees according to advice from Central Governing Board or State Executive Committees.

Under the reorganization, every legally qualified physician, man or woman, holding the degree of Doctor of Medicine from a legally chartered medical school, who is not now attached to the government service, and without reference to age or physical disability, may apply for membership and be admitted if qualified; whereas, the original organization admitted only those who for various reasons were ineligible to membership in the Medical Reserve Corps. The organization will mobilize the medical profession in order to provide for the health needs of the military forces and the civil population, and the recording and classifying of doctors will afford means of obtaining quickly men and women for any service required.

To date about 40,000 of the 144,116 doctors in the United States—not including the more than 5,000 women doctors—either are in government service or have volunteered their services. Up to July 12 the Surgeon General had recommended to the Adjutant General 26,733 doctors for commissions in the Medical Reserve Corps. About 9,000 others who applied were rejected. With the 1,194 in the Medical Corps of the National Guard and 1,600 in the Navy, the total—38,527—constitutes 26.73 per cent. of the civilian doctors. Deducting those who declined their commissions or who have been discharged because of subsequent physical disability or other cause, the number actually commissioned in the Medical Reserve Corps stands (August 23) at 23,531 with several hundred recommended whose commissions are pending. Of the 23,531 there are 22,232 now on active duty.

The need of using wisely the service of the medical men, in view of the universal war activities, is indicated when it is known that in the five weeks ended

August 2, there were 2,700 medical officers commissioned in the Army, Navy, and Public Health Service—or at the rate of 540 per week. This rate at which enrollment is proceeding is the cumulative result of the operation of all the machinery which has been in process of setting up since the United States entered the world war. While the number commissioned in the five weeks mentioned may seem large, it is not much greater than the rate at which medical men have been receiving their commissions during the past year. There are now 28,674 medical officers commissioned in the three services—26,027 in the Army, 2,427 in the Navy, and 220 with the commission of Assistant Surgeon in the United States Public Health Service. Of the 2,700 commissioned in the five weeks ended August 2, there were 2,527 in the Army, 169 in the Navy, and 4 in the United States Public Health Service. Also, 40 doctors designated as Acting Assistant Surgeons have been taken on in the Public Health Service in the last two months, 21 for work in extra-cantonment zones, 14 for special venereal disease work, and 5 for marine hospitals. The 26,027 in the Army medical service comprise 933 in the Medical Corps, the Regular Army service; 23,531 in the Medical Reserve Corps; 1,194 in the Medical Corps of the National Guard, and 369 in the Medical Corps of the National Army.

It is estimated that at least 50,000 doctors will be necessary eventually for the Army. It can readily be seen that with the enrollment of these active men, their places in communities and institutions must be cared for and the work, therefore, throughout the country must be so systematized and coordinated that the civilian population may not suffer. An important aspect is the need for medical men in the products are being made.

The Volunteer Medical Service Corps, supervised by the Central Governing Board now named, will thoroughly care for these needs.

In connection with the mailing of membership blanks for the Volunteer Medical Service Corps to all legally qualified men and women doctors of the country, Dr. Franklin Martin, Chairman of the General Medical Board of the Council of National Defense, says:

"Great as has been the response to the appeal for doctors, it must be greater. It is imperative that every doctor not already in a government service fill out, sign and return the blank to the offices of the Central Governing Board, Council of National Defense, Washington, at once. We believe thousands will do this, as they are anxious to be enrolled as volunteers for the Medical Departments of the Army and Navy before registration under the new draft law goes into effect. The appeal for enrollment in the Volunteer Medical Service Corps, which President Wilson has formally approved, is an official governmental call to service. This will place the members of the medical profession of the United States on record as volunteers, available for classification and ready for service when the call comes."

EYE, EAR, NOSE AND THROAT

Those desiring to read papers during the coming session of the Eye, Ear, Nose and Throat Section, of the Illinois State Medical Society, at Peoria, Illinois, May 20, 21 and 22, 1919, are requested to communicate with the Secretary or Chairman of the Section, as early as possible, as the scientific program is now being arranged. It is especially desired to have as large a representation as possible on the program from throughout the entire state.

DR. WESLEY HAMILTON PECK, Chairman,
31 North State Street, Chicago, Ill.

DR. FRANK ALLPORT, Secretary,
7 West Madison Street, Chicago, Ill.

Public Health

INFANTILE PARALYSIS SITUATION IN ILLINOIS

During the four weeks ending August 28th, 50 cases of acute poliomyelitis were reported to the State Department of Public Health; seven of these have not been examined and seven were declared upon examination not to be true cases of Infantile Paralysis. During the four weeks there have been 13 deaths from the disease, with 29 released from quarantine and 29 still under quarantine. The total number of cases from January 1st to August 29th is 213 with 41 deaths. 31 of the cases reported were found upon examination not to be poliomyelitis.

The communities having the largest number of cases have been Kankakee County with 14 cases and 2 deaths; Cook County, outside of Chicago, with 12 cases and 1 death; Jo Daviess County with 11 cases and 2 deaths; De Kalb County with 9 cases and 6 deaths; Macoupin County with 6 cases and 2 deaths; McHenry County with 6 cases and 2 deaths. So far this year the disease has appeared in 43 of the 102 counties of the State.

TYPHOID FEVER IN ILLINOIS

During the past month typhoid fever has been reported from 18 communities in the State. The rather serious epidemic of the disease which has prevailed at Moline for several months now shows signs of abatement. There have been approximately 145 cases in Moline since April, the epidemic being attributed to a pollution of the municipal water supply through raw water drawn from the Mississippi River.

In Jacksonville there have been 45 cases of typhoid fever and through investigations of the State Department of Public Health suspicion was thrown on a contaminated well situated in a local lumber yard. The outbreak at Wheaton has been traced to a contaminated milk supply.

NEW ILLINOIS STANDARD DEATH CERTIFICATE

A new standard death certificate for use throughout Illinois has been prepared by the Division of Vital Statistics of the State Department of Public Health and is now in press. Several important changes characterize this certificate and serve to eliminate statistical errors which necessarily have occurred in the use of the old forms. In many instances, particularly in those having large hospitals or other institutions, the mortuary records for the community are misleading in that they include the deaths from a large number of individuals who are not residents of that community. The new death certificate shows the actual residence of the deceased immediately after the name. The following questions are important additions in the new form and lead to a more accurate conclusion as to where the disease was contracted if not at the place of death. It raises the query as to whether a surgical operation preceded death and if so it asks for the date of operation. A statement must be made as to whether or not an autopsy was performed and finally what test or tests confirmed the diagnosis given.

These blanks will be ready for distribution in the near future.

RETURNED TUBERCULOUS SOLDIERS IN ILLINOIS

Up until August 28th, approximately 1200 soldiers have been returned to the various sections of Illinois from military cantonments on account of tuberculosis. Under the provisions of an agreement with the Central Division of the American Red Cross, the State Department of Public Health, and the Illinois Tuberculosis Association, the accurate diagnosis of all of these cases, together with recommendation for treatment is being carried out by the State Tuberculosis Association in conjunction with the State Department of Health. The American Red Cross through the Home Service Sections of Local Chapters assist in making financial provision for the home treatment and for the sanatorium care of these returned soldiers.

In the city of Chicago the diagnosis and treatment are worked out jointly by the Chicago Chapter of the American Red Cross, the Chicago Health Department, and the Chicago Municipal Tuberculosis Sanitarium.

So far tuberculous soldiers have been returned for care and treatment to the following Illinois Counties: Adams 7; Alexander 6; Bond 2; Brown 1; Bureau 5; Calhoun 1; Carroll 5; Cass 6; Champaign 7; Christian 4; Clark 9; Clay 6; Clinton 4; Coles 7; Cook (outside of Chicago) 29; Crawford 4; Cumberland 2; De Kalb 4; De Witt 4; Du Page 3; Edgar 6; Edward 3; Effingham 5; Ford 1; Franklin 12; Fulton 6; Gallatin 3; Greene 1; Grundy 4; Hamilton 3; Hancock 3; Hardin 1; Henderson 2; Henry 3; Iroquois 2; Jackson 5; Jasper 6; Jefferson 8; Jersey 2; Johnson 3; Kane 16; Kankakee 6; Kendall 4; Knox 9; Lake 9; La Salle 8; Lawrence 3; Lee 2; Livingston 3;

Logan 1; Macon 4; Macoupin 25; Marion 4; Marshall 2; Mason 1; Massac 2; McDonough 1; McHenry 4; McLean 12; Menard 1; Mercer 5; Monroe 4; Montgomery 7; Morgan 1; Moultrie 1; Ogle 4; Peoria 14; Perry 3; Piatt 1; Pike 6; Pope 3; Putnam 1; Randolph 10; Rock Island 10; Saline 15; Sangamon 26; Schuyler 3; Shelby 7; Stark 2; St. Clair 29; Stephenson 6; Tazewell 5; Union 9; Vermillion 16; Wabash 1; Washington 3; Wayne 11; White 1; Whiteside 3; Will 4; Williamson 21; Winnebago 16; Woodford 2. Seven of these young men have died from tuberculosis since being discharged from military service.

MIDSUMMER MORBIDITY REPORT FOR STATE OF ILLINOIS

VENEREAL DISEASES LEAD

SMALLPOX THREATENS TROUBLE IN FALL MONTHS

During the month of July 5563 cases of communicable diseases were reported to the State Department of Public Health from 196 different communities. Of the total cases reported Chicago had 4166, the other 1397 cases being distributed among 195 down state towns and cities.

Venereal diseases for the first time in the history of the State lead all other acute infections in number of cases reported. During the month 1056 cases were reported to the State authorities, 645 being gonorrhea, 360 syphilis and 51 chancroid. These cases were reported from 44 localities indicating an increasing appreciation and a more general observance of the rules requiring the reporting and control of the venereal infections. The report for August will show still further improvement in this respect.

Whooping cough with 1030 cases recorded stands in order of greatest prevalence. Chicago reported 598 cases, Evanston 257, Lake Bluff 37, Springfield 38 and Flora 53, the other cases being distributed among fourteen other communities.

The presence of 101 cases of smallpox in 38 communities at this season of the year is indeed disquieting and is held as promising a serious situation with the onset of cooler weather if preventive measures are not undertaken in the meantime. It is of the utmost importance with the opening of schools in September that every pupil be examined as to vaccinal status and that extraordinary pressure be brought to bear on the parents of all unprotected children to have them vaccinated without further delay. School authorities and citizens generally should regard it their patriotic duty to avail themselves of this simple means of preventing a situation which may seriously interfere with the mobilization and training of our troops.

Typhoid fever, the presence of which is a shame and a disgrace to any community, claimed 213 cases in July and as shown by current records a considerably larger number in August. Forty-three different communities reported the presence of this filth disease in July. The City of Moline reported 106 cases,

Jacksonville 12; Danville 5; North Chicago and Waukegan 5; Neoga 6, and Chicago 28.

Diphtheria was reported from 42 communities, a total of 486 cases, 358 of which occurred in Chicago, 16 in Roodhouse, Greene County, and 18 in Brookport, Massac County—9 in one family.

Poliomyelitis (infantile paralysis) appeared in 19 different localities with a total of 43 cases. The areas chiefly affected were Jo Daviess, Kane and Kankakee counties and the City of Chicago.

Scarlet fever was at low ebb in July, there being but 153 cases in the State, 101 in Chicago and the remainder scattered among 26 down state communities.

Following is a summary of the communicable disease reports for July, showing the Chicago and down state totals and the number of communities affected.

COMMUNICABLE DISEASES REPORTED TO STATE DEPARTMENT OF HEALTH DURING MONTH OF JULY, 1918.

	Chicago	Down State	Total	Number Localities Affected
Cerebrospinal fever	21	1	22	2
Chickenpox	169	2	171	1
Diarrhea and enteritis.....	1	...	1	1
Diphtheria	358	128	486	42
Diphtheria carriers.....	90	...	90	1
Erysipelas	29	...	29	1
German measles	33	1	34	2
Infantile paralysis	17	26	43	19
Measles	200	69	269	25
Mumps	63	13	76	8
Ophthalmia neonatorum	15	2	17	3
Paratyphoid fever	3	1	4	2
Pneumonia	140	...	140	1
Puerperal fever	6	...	6	1
Scarlet fever	101	52	153	27
Smallpox	10	91	101	38
Streptococcus sore throat....	2	...	2	1
Tetanus	4	...	4	1
Trachoma	4	5	9	4
Tuberculosis	1,467	132	1,599	41
Typhoid fever	28	185	213	43
Whooping cough	598	432	1,030	19
Venereal Diseases:				
Syphilis	292	68	360	18
Gonorrhea	471	174	645	18
Chancroid	36	15	51	7
All others	8	...	8	1
Totals	4,166	1,397	5,563	196

Correspondence

COUNCIL OF NATIONAL DEFENSE
MEDICAL SECTION
WASHINGTON, D. C.

August 12, 1918

ENROLLMENT OF PHYSICIANS

To the Editor:

1. On August 8th the following statement was authorized by the War Department, signed by Newton D. Baker, Secretary of War:

“The War Department today has suspended further volunteering and the receipt of candidates for officers’ training camps from civil life. This suspension will remain in force until the legislation now pending before the Congress with regard

to draft ages is disposed of and suitable regulations drawn up to cover the operation of the selective system under the new law. * * *”

Fearing that this order might be misinterpreted by doctors who would not distinguish between enlistment as a private soldier and enrollment as an officer in the Medical Reserve Corps, on August 9th, I asked the Secretary of War to issue a statement making clear this point.

2. In response to this request on August 10th the following statement was authorized by the War and Navy Departments:

“Orders issued by the War and Navy Departments on August 8th suspending further volunteering and the receipt of candidates for officers’ training camps from civil life do not apply to the enrollment of physicians in the Medical Reserve Corps of the Army and the Reserve Force of the Navy. It is the desire of both departments that the enrollment of physicians should continue as actively as before so that the needs of both services may be effectively met.

(Signed) JOSEPH DANIELS,
Secretary of the Navy.
(Signed) NEWTON D. BAKER,
Secretary of War.”

3. It is desirable that the definite attention of the medical profession be called to this interpretation in order that enrollment for the Medical Reserve Corps of the Army and the Reserve Force of the Navy, which is going on so rapidly at the present time, shall not be interrupted. Trusting that you will give this prominent space in the next issue of your JOURNAL and such editorial comment as you may deem desirable, I am

Yours very truly,
FRANKLIN MARTIN,
Chairman, General Medical Board.

STATE BOARD EXAMINATIONS

The following candidates were successful in the recent examination for physicians and surgeons held by the Department of Registration and Education:

- Abraham, Edwin Dorsey, St. Luke’s Hospital, Chicago.
- Anderson, Richard Elseph, Michael Reese Hospital, Chicago.
- Anderson, Roger Smedberg, 2901 Prairie Ave., Chicago.

- Anderson, Truman Oliver, 11640 Yale Ave., Chicago.
 Anderson, Victor Joseph, 5634 Ridge Ave., Chicago.
 Ash, Simon, A. T. & S. F. Hospital, Topeka, Kas.
 Bailey, Percival, Mercy Hospital, Chicago.
 Barth, Walter James, 1124 Oakdale Ave., Chicago.
 Beck, Karl M., 3537 Sheffield Ave., Chicago.
 Begg, Harold Kohl, Michael Reese Hospital, Chicago.
 Bell, Jerry S., 422 S. Hermitage Ave., Chicago.
 Bernstorff, Warren Fred'k, Cook County Hospital, Chicago.
 Berry, Ernest Lee, Michael Reese Hospital, Chicago.
 Billingsley, Paul Raymond, Cook County Hospital, Chicago.
 Birk, Benjamin Jaffee, 5040 St. Lawrence Ave., Chicago.
 Bissekumer, Roger Martin, 1136 Crosby St., Rockford, Ill.
 Brooks, Harry Lewis, Metropolitan Hospital, New York.
 Brosiloff, Fanny S., 2012 W. Polk St., Chicago.
 Brown, Lyle Leland, Michael Reese Hospital, Chicago.
 Burcky, Fred'k Wm., 6641 S. Halsted St., Chicago.
 Burke, James Walter, 2701 N. Mozart St., Chicago.
 Calonge, Guy Earl, 1848 W. Adams St., Chicago.
 Campbell, Duncan D., 4803 W. Madison St., Chicago.
 Carpenter, Fred Elton, Reasner, Iowa.
 Caylor, Harold D., 709 S. Ashland Blvd., Chicago.
 Chamberlin, Frank T., Jr., 1323 M St. N. W., Washington, D. C.
 Chapman, Meyer Joseph, 1045 N. Ashland Ave., Chicago.
 Chimane, Eugene Opet, 1805 Clay Ave., Houston, Tex.
 Claridge, John Daniel, Mercy Hospital, Chicago.
 Colbert, Carter Noville, 1438 Jackson Blvd., Chicago.
 Coldren, Cassius Milo, 1753 W. Congress St., Chicago.
 Cole, Merion Ousley, 1361 E. 57th St., Chicago.
 Collins, Harry Lambert, 27 E. Monroe St., Chicago.
 Conley, David Oris, 115 W. Kent St., Streator, Ill.
 Cooke, Harriett E., 4250 Van Buren St., Chicago.
 Coppens, Jesse Brenton, 2444 Leland Ave., Chicago.
 Copia, George H. J., Batavia, Ill.
 Croson, Franklin Roy, 2923 Michigan Ave., Chicago.
 Croutch, Benjamin F., 3819 Monroe St., Chicago.
 Davis, Ethel Mildred, 5177 Michigan Ave., Chicago.
 David, Loyal Edward, Galesburg, Ill.
 Derian, Mardiros H., 1923 W. Adams St., Chicago.
 Dickinson, Jasper Myrton, Cook County Hospital, Chicago.
 Dry, Frank Mortimer, 820 Montrose Blvd., Chicago.
 Dummer, William Martin, St. Joseph's Hospital, St. Paul, Minn.
 Durr, Samuel Abraham, Cook County Hospital, Chicago.
 D'Vorak, Albert Charles, Michael Reese Hospital, Chicago.
 Eager, Benjamin F., 2901 Prairie Ave., Chicago.
 Eisaman, Ralph Herbert, Cook County Hospital, Chicago.
 Ellis, George Curtis, 3763 Wabash Ave., Chicago.
 Elmer, William Hart, 921 East 42nd Pl., Chicago.
 Enneis, Francis R., 338 Copeland St., Jacksonville, Fla.
 Enos, Louis H., Alton, Ill.
 Everhart, Arthur M., 11 W. Superior St., Chicago.
 Feldott, Harry R., Batavia, Ill.
 Fergusson, Frederick Wm., Michael Reese Hospital, Chicago.
 Finney, Clarence E. McC., 709 S. Ashland Blvd., Chicago.
 Fitzgerald, James P., Selfridge Field, Mount Clemens, Mich.
 Flaten, Amon Peter, 3805 Monroe St., Chicago.
 Foster, Samuel Thomas, St. Luke's Hosp., Chicago.
 Fox, Breina, 3604 W. 15th St., Chicago.
 Frederickson, Charles H., South Bend, Ind.
 Frederickson, Harold C., South Bend, Ind.
 Freund, Charles Anton, 3836 Byron St., Chicago.
 Frey, Harry, Rock Island, Ill.
 Furry, Abe D., Metropolitan Hospital, New York.
 Ganyard, Ford Carter, 1531 W. Adams St., Chicago.
 Gacht, Max, 629 So. Marshfield Ave., Chicago.
 Goldfield, Bernard, 1432 W. 13th St., Chicago.
 Gunning, Robert E. L., Galesburg, Ill.
 Gustafson, J. Eric, 2814 Ellis Ave., Chicago.
 Haag, Arthur Fred'k, 1515 W. Monroe St., Chicago.
 Haan, George Wm., Jr., Aurora, Ill.
 Haley, Clarence Q., 2141 S. Clinton Park Ave., Chicago.
 Haralson, Edith M. P., Byron Center, Mich.
 Healy, Roscoe H., Barnes Hospital, St. Louis, Mo.
 Heck, Frank LeRoy, 2100 Burling St., Chicago.
 Hediger, Edward, 1433 N. Claremont Ave., Chicago.
 Hennan, Clarence W., 6450 Drexel Ave., Chicago.
 Heumann, Johanna, 4520 Grand Blvd., Chicago.
 Hoag, Howard Carlisle, Oak Park, Ill.
 Hornberger, August F., Baldwin City, Kan.
 Houghton, Elgie M., 615 S. Wood St., Chicago.
 Hoyme, Gjermund, Mercy Hospital, Chicago.
 Huber, Paul Robert, 1000 Diversey Parkway, Chicago.
 Ives, Warren Chamberlain, Pecatonica, Ill.
 Johnson, George Emel, 1908 W. Jackson Blvd., Chicago.
 Johnson, Iven G., 5437 W. Van Buren St., Chicago.
 Jones, Orion Chester, General Hospital, Rochester, N. Y.
 Kamm, Adolph Xavier, Metropolitan Hospital, New York.
 Kaplan, David, 702 S. Ashland Blvd., Chicago.
 Keeler, Kenneth Blake, St. Luke's Hospital, Chicago.
 Kemper, Malcolm, Phila. Gen'l Hosp., Philadelphia, Pa.
 Kennedy, Josephine, 2224 Washington Blvd., Chicago.
 Kornder, Louis Henry, Davenport, Iowa.
 Kramer, Florence R., 1919 W. Congress St., Chicago.
 Kramer, Morris D., 629 So. Marshfield Ave., Chicago.
 Kultus, Theodore, 2507 W. Division St., Chicago.

- Lash, Abraham L., 1826 So. Avers Ave., Chicago.
 Laury, Charles McCray, 1336 Newberry St., Chicago.
 Levy, David Mordecai, Cook County Hospital, Chicago.
 Lewis, Marian, Milwaukee, Wis.
 Loar, Ralph Rinehart, Glencoe, Ill.
 Lommen, Peter Arnold, 709 S. Ashland Blvd., Chicago.
 Loving, Luther Wilbur, St. Luke's Hospital, Chicago.
 Lutton, Ethelbert A., 7849 Normal Ave., Chicago.
 Lyon, Floy E., 605 S. Ashland Blvd., Chicago.
 MacDougall, Andrew S., 1832 W. Adams St., Chicago.
 Macdonald, Hugh, Peoria, Ill.
 MacAuliffe, Joseph P., 1248 S. Kedvale Ave., Chicago.
 Mahle, Arthur Edwin, Rochester, New York.
 Maury, Leo Gernand, Michael Reese Hospital, Chicago.
 Maxon, Earl Dwight, 15 So. Honore St., Chicago.
 Mazel, Maurice S., 911 S. Halsted St., Chicago.
 McCurdy, Russell James, Glencoe, Ill.
 McHaffie, Orval L., Michael Reese Hospital, Chicago.
 McKeown, Charles D., 118 S. Winchester Ave., Chicago.
 McWilliams, William B., 2923 Michigan Ave., Chicago.
 Mercy, Raymond John, 1458 Jackson Blvd., Chicago.
 Meyer, Martin L. D., 2646 Calumet Ave., Chicago.
 Miller, Arthur Lewis, 710 S. Lincoln St., Chicago.
 Miller, Max Mayo, Kansas City, Mo.
 Mohr, George Joseph, 702 S. Ashland Blvd., Chicago.
 Morrison, Richard John, 118 S. Winchester Ave., Chicago.
 Mott, Neva Grosh, 3736 W. 64th St., Chicago.
 Murphy, Thomas N. B., U. S. Naval Hosp., Lake Forest, Ill.
 Nagle, Richard A., 209 N. Long Ave., Chicago.
 Newbecker, Cecil George, Los Angeles County Hospital, Los Angeles, Cal.
 Nex, Henry A., Detroit, Mich.
 Nyvell, Harry O. J., 3257 Foster Ave., Chicago.
 O'Connor, Vincent John, Ottawa, Ill.
 Ohlendorf, Clarence, Park Ridge, Ill.
 O'Neill, Joseph Thomas, Illinois Steel Co. Hosp., Joliet, Ill.
 Orcutt, Arthur Henry, U. S. Naval Hosp., Lake Forest, Ill.
 Paine, Norman Carr, 4224 Langley Ave., Chicago.
 Parowski, Victor B., St. Anthony's Hosp., Chicago.
 Pember, Aubrey H., Augustana Hospital, Chicago.
 Perkins, Chester Henry, Ill. Steel Co. Hosp., Joliet, Ill.
 Petritz, Louis James, Mercy Hospital, Chicago.
 Piaseczynski, Francis, Cleveland, Ohio.
 duPlessis, Jean, 525 S. Ashland Blvd., Chicago.
 Pomrenze, Herman M., 1431 W. 14th St., Chicago.
 Portis, Sidney A., 5140 Michigan Ave., Chicago.
 Power, John Edward, St. Luke's Hospital, Chicago.
 Przygocki, Stanley F., 2804 Logan Blvd., Chicago.
 Rapp, Edwin Wallace, 1832 W. Adams St., Chicago.
 Reich, Stanley Henry, 3003 Allen Ave., Chicago.
 Roark, George L., Hawarden, Ia.
 Roewe, Henry Joseph, Michael Reese Hosp., Chicago.
 Rongetti, Amante, 923 Blue Island Ave., Chicago.
 Rosenberg, William A., 2633 Potomac Ave., Chicago.
 Ross, Ellison Lloyd, Cashmere, Wash.
 Rossyn, Isadore M., 3515 W. 12th St., Chicago.
 Rowley, Walter Nelson, 1336 Newberry St., Chicago.
 Rubin, Martha, 1845 W. Taylor St., Chicago.
 Rutz, Reinhold Albert, 1256 No. Harding Ave., Chicago.
 Sauer, Henry Charles, 709 S. Ashland Ave., Chicago.
 Schlossmann, Bernard, 702 S. Ashland Ave., Chicago.
 Schneider, Philip Frederic, Freeport, Ill.
 Schoon, Theodore George, Buffalo Center, Ia.
 Sexsmith, Edna Kathryne, 705 S. Ashland Blvd., Chicago.
 Sherman, Borris J., Michael Reese Hosp., Chicago.
 Simpkin, John Mark, Cook County Hosp., Chicago.
 Sladek, Edward Frank, Michael Reese Hospital, Chicago.
 Smith, Arthur Ervin, 210 S. Lincoln St., Chicago.
 Smith, Chas. Enion, 3124 Logan Blvd., Chicago.
 Smith, Dale DeWitt, 1336 Newberry Ave., Chicago.
 Smith, Herchel, Wesley Hospital, Chicago.
 Sokoloff, Anna, 836 S. Lincoln St., Chicago.
 Steffens, Georgia Wetmore, 435 E. 44th St., Chicago.
 Stogadill, Grace Scott, 2901 Washington Blvd., Chicago.
 Stoll, Henry G., Hinsdale, Ill.
 Strikol, Michael Thomas, West Side Hosp., Chicago.
 Tashma, Sigmund Schaia, 2107 S. Turner Ave., Chicago.
 Taylor, Arthur Clyde, Wilmette, Ill.
 Taylor, Charles Fletcher, 7528 Saginaw Ave., Chicago.
 Thomas, Clyde Samuel, Cincinnati Gen'l Hospital, Cincinnati, Ohio.
 Thompson, John Clark, Cook Co. Hosp., Chicago.
 Tichy, Ladislav Sala, 3200 W. 22nd St., Chicago.
 Tierney, George Francis, 3729 So. Morgan St., Chicago.
 Tihen, Henry Nelson, 323 S. Ashland Blvd., Chicago.
 Troy, John Edward, 622 Aldine Ave., Chicago.
 Turley, Vigo T., Gallveston, Ind.
 VanDuine, Wesley, Hahnemann Hospital, Chicago.
 Verbryck, George Garrison, Presbyterian Hospital, Chicago.
 Wagoner, Guy Leon, Augustana Hospital, Chicago.
 Waldorf, Clifford Earl, Mitchell, So. Dak.
 Wallace, James Houston, Sandwich, Ill.
 Waldmann, Louis Francis, 221 So. Ashland Blvd., Chicago.
 Waltz, Manford Repp, Victoria, Mich.

Weishaar, Herman Oliver, Evanston Hospital, Evanston, Ill.

West, Ray Augustine, St. Luke's Hosp., Chicago.

Williams, Rutherford M., 3400 Forest Ave., Chicago.

Woolson, Clement, St. Paul, Minn.

Worsley, Edgar Field, Oak Park, Ill.

Worley, Eugene, St. Anthony's Hospital, Chicago.

Wojczynski, Aloysius J., 1618 N. Marshfield Ave., Chicago.

Wright, Bert Mathias, Washington, D. C.

Personals

Dr. C. E. Howard, Lewiston, has removed to Peoria.

Dr. H. J. Gahagan has removed from Elgin to Chicago.

Dr. P. B. Goodwin has removed from Summum to Peoria.

Dr. H. D. Steele has removed from Princeton to Long Beach, Cal.

Dr. Henry I. Wilson, Oak Forest, has been appointed health officer of Racine.

Dr. Albert Mowry, Chicago, has been assigned to active duty, and has been ordered to Syracuse, New York.

Dr. Carl E. Black, Jacksonville, has been appointed a member of the medical division of the Illinois state council of defense.

Dr. S. Claude Andrus has been appointed chief surgeon for the Chicago, Milwaukee and Gary Railroad, with headquarters at Rockford.

Dr. A. J. Hruby has been appointed medical superintendent of the Municipal Tuberculosis Sanitarium in place of Dr. Watterson.

Dr. George F. Richey, Bushnell, has been commissioned first lieutenant, U. S. Naval Reserves.

Drs. Mary M. S. Johnstone and Loretta K. Maher, of Chicago, have been appointed on the staff of the war emergency dispensary in Washington.

Dr. Edwin C. Williams, physician to the late James C. King of Chicago, was a witness in the contested will case to dispose of the estate of \$3,000,000.

Dr. H. G. Reinhardt, Chicago, coroner's physician for Cook county, is a candidate for state

senator in the 25th senatorial district on the republican ticket.

Dr. H. J. Haiselden, Chicago, is said to have been sued for \$35,496.55 by the Hennepin Film Company over an alleged contract re the film, "The Black Stork."

Dr. Robert C. Bourland, Rockford, formerly major surgeon of the Third Infantry, Ill. N. G., was elected chairman of the west side selective service board, July 18.

Dr. A. F. Stewart, Oneida, lieutenant at Camp Dodge, has received an honorable discharge from service on account of physical disabilities existing prior to his enlistment.

The Adams County Medical Society reported a picnic at Arion park, August 13. The only criticism noted was made by Dr. Whellock who did not approve dividing one chicken between two doctors. What do you mean, chicken?

Capt. Francis E. Locy, of Evanston, was reported gassed at Chateau Thierry, while dressing the wounded for thirty hours. The gas destroyed his clothes so that he arrived at the base hospital in pajamas, helmet and boots.

The following Chicago physicians have received commissions in the Medical Reserve Corps: Captain John E. Stanton; Lieutenants, Abraham I. Eppstein, Frank J. Quirk, Richard A. Roche and Clarence Wieneke.

Dr. A. Lagorio, Chicago, has received acknowledgment of the receipt in Italy of 10,000 liras subscribed in Chicago for relief work in the Italian trenches. July 20 the Chicago Italian Red Cross sent 125,000 liras to found an institution for the orphans of refugees.

The following Springfield physicians have received commissions: Captains, M. R. C., Chas. W. Compton, Irving Metz, Robert E. Flentje, Hugh T. Morrison and Albert R. Trapp; First lieutenants, David Lockie, G. J. Mautz, S. D. Zopf, H. K. Southwick and Edgar D. Smith.

Bushnell, according to the *Record*, has contributed more than 50 per cent. of the Medical Corps of McDonough County and more than 25 per cent. of the soldiers of the county. The Bushnell medical men in the service include Drs. G. R. Blackstone, J. C. Griffith and S. Duntley, and Dr. Geo. F. Ritchey is a lieutenant in the Navy.

News Notes

—The Base Hospital Unit No. 14, St. Luke's Unit, was announced, August 2, to have been safely landed in Europe. Capt. Lawrence H. Mayers, M. R. C., U. S. Army, is director of the unit.

—At the international convention of the Catholic Order of Foresters, held in Duluth, July 29, Dr. Joseph P. Smyth, Chicago, was elected high medical examiner.

—The name of the Memorial Institute for Infectious Diseases, founded in memory of John Rockefeller McCormick, has been changed to the John McCormick Institute for Infectious Diseases.

—Boone county is the 34th Illinois county to form a tuberculosis association. The prospect of having soldiers invalidated home on account of tuberculosis is stimulating organizations to provide sanatoria for the coming need.

Capt. Wm. F. Scott, of Fort Sheridan, is said to have started suit for \$15,000 against John J. Arnold, vice-president of the First National Bank of Chicago, for services in amputating his feet. It is stated that Mr. Arnold collected \$154,000 accident insurance.

—The Department of Registration and Education of Illinois has secured a conviction against F. Zegsda in the Municipal Court of Chicago, and suit was filed against Jeb Maddox, East St. Louis, for practicing medicine without a license. Zegsda was fined \$100 and costs.

—The association of Misercord of the Heber Memorial Hospital, Pana, gave a dinner at the hospital, July 25, in honor of the physicians who have been called into United States service. The guests of honor were Drs. Roscoe C. Danford, Walter Burgess, and Frederick J. Eberspacher. Dr. John F. H. Deal, Springfield, was toastmaster.

—At a meeting of the Illinois Department of Registration and Education, held August 19, according to report, the licenses of the five following physicians were revoked: William Lewis LeBoy and James Russell Price of Chicago, Samuel Ringgold Harwood of East St. Louis, Edward E. Rohrabough of Hanna City and William L. Owen. The last named is at present

serving a term in the Federal Prison at Atlanta, Ga., for illegally prescribing narcotics. Since his conviction in New York his licenses in New York, Pennsylvania, California and now in Illinois have been successively revoked.

—The following Illinois physicians have been commissioned in the Medical reserve corps and have reported as indicated:

First Lieut. Earl Meister, Chatsworth—Fort Riley, Kansas.

First Lieut. C. W. Rutherford, Newman—Ft. Oglethorpe, Ga.

Captain H. G. Wright, DeKalb.

First Lieut. H. W. Ackerman, Elgin.

Capt. James A. Howell, Elgin—Ft. Oglethorpe, Georgia.

Major Charles J. Swan, Evanston—Camp Wheeler, Georgia.

Capt. G. W. Boot, Evanston—Camp Pike, Ark.

Capt. T. J. Williams, Evanston.

Capt. R. N. Lane, Gibson City.

First Lieut. B. A. Cottlow, Oregon.

First Lieut. H. D. Eaton, Harvard—Fort Riley, Kansas.

Lieutenant C. D. Snively, Ipava—Ft. Oglethorpe, Georgia.

First Lieut. John H. Edgcomb, Ottawa—Base hospital, Macon, Ga.

Capt. B. F. Hockman, Summer—Ft. Oglethorpe, Georgia.

First Lieut. W. L. Crouch, Fairview—Camp Mead, Maryland.

Capt. Wm. Schoenneshoefer, Lostant.

Capt. Arvid E. Koehler, Moline—Ft. Oglethorpe, Georgia.

Capt. Clinton E. Powell, Polo.

Capt. Everett H. Butterfield, Ottawa—Tuberculosis camp, New Haven, Ct.

First Lieut. A. E. Hubbard, Peoria.

Lieut. H. C. Loveless, Griggsville—Camp Greene, North Carolina.

Capt. R. E. Stevens, Rochelle—Ft. Oglethorpe, Ga.

First Lieut. Ackerman, Rockford.

Capt. W. R. Fringer, Rockford—Ft. Oglethorpe, Georgia.

Lieut. F. M. Davenport, Rock Island.

First Lieut. V. M. Corman, Pleasantview—Base hospital, Camp Upton, N. Y.

Capt. H. O. Munson, Rushville—Camp Taylor, Ky.

First Lieut. J. A. McGee, Virginia—Ft. Oglethorpe, Georgia.

First Lieut. W. R. Blackburn, Virginia—Ft. Oglethorpe, Ga.

Capt. E. B. Packer, Toulon.

Major Roy H. Garm, Beardstown—Camp Sherman.

First Lieut. W. E. G. Mayes, Dawson.

First Lieut. H. B. Willcockson, Illiopolis.

Lieut. Geo. T. Meacham, Taylorville—Ft. Oglethorpe, Ga.

Capt. G. H. Moore, Aledo.

First Lieut. C. E. Smeltzer, Aledo.

First Lieut. J. W. Ovitz, Genoa—Camp McClelland, Alabama.

First Lieut. Henry Goodyear, Norton—Camp Sherman, Ohio.

Capt. T. C. Hays, Canton—Ft. Oglethorpe, Georgia.

Lieut. L. C. Knight, Carthage—Ft. Oglethorpe, Georgia.

Marriages

GEORGE B. ALLEN, to Miss Mame Hrdlicka, at Cary, July 17.

FRED J. SMITH, of Farmington, to Miss Fern Arnett, of Canton, at Canton, recently.

JOHN CLOYD SOUDERS to Miss Clara Traenkenschuh, both of Rock Island, Ill., July 22.

J. HARRISON GRIFFIN, Chicago, to Miss Cleo Dale Latimer of Asheville, N. C., at Jacksonville, Fla., recently.

CAPT. EDWIN FREDERICK HIRSCH, M. R. C., U. S. Army, Chicago, on duty at Camp Grant, Rockford, Ill., to Miss Marian Sharp Lane of Beverly Hills, Chicago, August 3.

CAPT. WILLIAM DAVISON NAPHEYS, M. R. C., U. S. Army, Chicago, on duty with the American Expeditionary Forces, France, to Mrs. Alberta M. Finch of Chicago, recently.

CAPT. ROBERT SIXTUS BERGHOFF, M. R. C., U. S. Army, Chicago, stationed at Camp Grant, Rockford, Ill., to Miss Mary Elizabeth Ford of Chicago, August 10.

LIEUT. JOHN HARRISON ALEXANDER, M. R. C., U. S. Army, Pittsburgh, on duty at Camp Grant, Rockford, Ill., to Miss Marie Christine Myers of Rockford, Ill., July 10.

Deaths

CLARENCE A. WARWICK, Chicago; Hospital College of Medicine, Louisville, Ky., 1898; aged 45; a veteran of the War with Spain; who later had Philippine service; died at his home, July 22, from heat prostration.

SAMUEL ORR LOUGHRIDGE, Peoria, Ill.; Jefferson Medical College, 1866; College of Physicians and Surgeons in the City of New York; 1870; aged 79; died at the home of his son, at Germantown, Philadelphia, July 21.

ROBERT WILLIAM MARKLEY, M. D., Winnebago and Rockford, Ill., Northwestern University Medical College, Chicago, 1898, a prominent surgeon, died July 28 at Belvidere Public Hospital, Belvidere, Ill., from acute nephritis, aged 46 years.

HENRY KNAPPENBERGER, Macomb, Ill.; Rush Medical College, 1881; aged 67; a Fellow of the American Medical Association and past president of the McDonough County Medical Society; died at his home, July 1, from disease of the gall bladder.

SAMUEL CALHOUN STEMME, Macomb, Ill.; College of Physicians and Surgeons, Chicago, 1889; aged 55; a fellow of the American Medical Association; surgeon in chief of the Marietta Phelps Hospital, Macomb; a member of the Macomb board of health for twenty years; died at his home, July 24, from carcinoma of the pancreas.

HELEN CRITTENDEN, Evanston, Ill.; Northwestern University Woman's Medical School, Chicago, 1894; organizer and director until her death of the Social Service Registration Bureau of the Chicago Bureau of Charities; president of the Social Service Club in 1913, and a lecturer in the Chicago School of Civics and Philanthropy; died at her home, August 15.

GEORGE EDWARD FELL, Chicago; University of Buffalo, 1882; aged 68; a Fellow of the American Medical Association; he was the first to save human lives by means of mechanical respiration, thirty-one years ago, as the result of experiments on animals which he conducted when professor of physiology in his alma mater; who also conducted the scientific experiments which resulted in 1890 in the construction of the electric chair for use in capital punishment, and whose most recent invention was an apparatus whereby an individual may remain under water a considerable time without danger; one of the founders and at one time president of the American Microscopical Society; a Fellow of the Royal Microscopical Society of England; died at his home, July 29, from dilatation of the heart.

CAPT. MAXIMILIAN JOSEPH HERZOG, M. R. C., U. S. Army, Chicago; Medical College of Ohio, Cincinnati, 1890; aged 59; a Fellow of the American Medical Association; a pathologist of high rank; dean and professor of pathology, bacteriology and hygiene in Loyola University; who was commissioned captain in the Medical Reserve Corps, April 19, 1917, and honorably discharged for physical disability, April 24, 1918; author of a Textbook on General and Comparative Pathology; pathologist to the German and Maurice Porter hospitals; once president of the Chicago Pathological Society; in 1902-1903; for many years professor of pathology in the Chicago Polyclinic, and later director of the United States Government Laboratories, Manila, P. I.; director of laboratories and research at the Municipal Tuberculosis Sanatorium since 1916; died in that institution, August 9, from chronic interstitial nephritis.

ILLINOIS MEDICAL JOURNAL

THE OFFICIAL ORGAN OF

THE ILLINOIS STATE MEDICAL SOCIETY

VOL. XXXIV

CHICAGO, ILL., OCTOBER, 1918

No. 4

Original Articles

PERSONAL EXPERIENCES CONCERNING THE OPERATION FOR SENILE CATARACT*

FRANK ALLPORT, M. D.,
CHICAGO.

This paper is not intended to present any new facts concerning operations for senile cataract. I desire merely to outline my own personal views on the subject; to tell what methods I like best and what procedures have given the most satisfactory average results in my hands. I do this because the profession is somewhat at variance as to the best methods of operating and the long experience of any man of average ability, experience and surgical skill must be of more or less value in its influence. It is only by the frank and honest exchange of personal views and the surrendering of desired and brilliant, but perhaps impracticable technique, that we will ever find our feet resting on solid ground and the cataract operation placed in a secured position, from whence it cannot be disturbed except by strong and indisputable evidence.

The object of this paper is to narrate in a simple manner my own method of operating; not that I consider it better than other methods, but it is merely the routine that I have found most satisfactory to me. Other operators have other methods that very likely are better than mine, methods that seem to suit *their* particular needs, and it would be a mistake for them to change unless they sincerely desire to do so. Neither shall I attempt to go into details concerning *all* the steps of the operation, as this would obviously be almost intrusive, as there are, of course, some things that everybody does—no matter what may be their practice in other respects.

In the first place, I never operate upon more than one eye at a time.

Patients should be twenty-four hours in the hospital before a cataract operation is performed. By so doing they become accustomed to their surroundings, are more quiet and will act better on the operating table. The bowels can be gently moved and a careful diet prescribed so that indigestion will not be troublesome after the operation. Besides this, the eye can be carefully prepared for the ordeal by being irrigated three times a day with a 1/10,000 bi-chlorid solution, followed by the use of White's bi-chlorid ointment. An hour or so before the operation the pupil should be dilated with atropin and the lashes should be gently but firmly scrubbed with 1/10,000 bi-chlorid solution and gauze, to get them as clean as possible. The entire face—eyes, brows, etc.—should be well cleaned, and after the patient is on the operating table the face should be again washed, the eye irrigated and the lashes and eyebrows gently scrubbed.

It is better to operate on the bed where the person is to lie or perhaps in the same room or ward or, at least, to have the patient moved as little as possible after the operation. If the patient is moved from an operation room to a private room or ward, the moving should be done as quietly as possible and superintended by a reliable and conscientious person. The patient should not help himself at all.

I always wear thin, tight-fitting, rough-surfaced gloves. The operation is much safer and I can handle delicate instruments perfectly well with them on.

Good illumination of the field of operation is essential to the best operating. I prefer a hand electric light with condensor, and a *glazed* globe. Besides this—a trained assistant focuses *accurately* a large convex lens on the eye, between the hand light and the eye.

My associate, Dr. James Smith, has devised what I consider to be the best light for a cataract operation that I have ever seen.

*Read before the 68th Annual Meeting of the Illinois State Medical Society, at Springfield, May 22, 1918.

He has merely taken a Ziegler hand lamp and fastened it to an arm that projects out beyond the light. To this arm is attached a roundish concaved bifurcation, into which can be slipped any strength of convex glass to be found in a trial case. This glass slips in the bifurcation just as a glass is slipped into a trial frame. In this way a stronger or weaker glass can be inserted and a corresponding focus of intense illumination thrown accurately upon the eye.

I like the hand lamp much better than the stationary lamp, as you can put it wherever you want it. This addition to the Ziegler light, devised by my associate, Dr. Smith, produces an ideal illumination for a cataract operation.

These lights will be manufactured by F. A. Hardy & Co., Chicago.

All water used for cleansing and irrigating should be warm. It should not be dropped on the eye from a distance, as this startles the patient and may make him jump, which would be especially unfortunate after the eye has been opened by the incision, as under these circumstances jumping and squeezing of the eye may be very unfortunate.

The speculum should be introduced gently and the patient told what is being done. Be careful not to press on the arms of the speculum.

Teach the attendants and the patient to keep quiet, and reassure the patient by a friendly word once in a while, telling him what is being done so he will not be taken by surprise.

When the initial puncture of the incision is made, the handle should be elevated a little so that the knife does not pass *between* the corneal layers, but directly *through* them all. When the counter puncture is made in the opposite side of the cornea, the handle should be somewhat depressed, as otherwise the knife is liable to pass too deeply into the eye and into the sclera.

I use a solution of 1 per cent holocain with 4 per cent cocain, and I always put a drop in the eye not operated on, as it induces more ocular quietude.

If a conjunctival flap is made, a few drops of adrenalin should be used, as otherwise considerable hemorrhage will occur, which may flow into the anterior chamber and embarrass the operator and lessen the chance of a successful result. A conjunctival flap lessens the chance of infection and hastens healing.

Before the iris is cut, a drop of the holocain and cocain solution may be dropped upon the incision, which will obtund sensibility. The patient should be told that this step in the operation may be a little painful, and he should be cautioned not to jump. Where it is possible, I very much prefer to make a preliminary iridectomy. I am confident that this renders the cataract extraction much safer and surer. There are several reasons for this opinion. In the first place, the attack on the eye is divided into two parts: first, the iridectomy, and second, the removal of the lens. It is easier to recover from a thus divided assault than if both are done at the same time. Besides this, if the iridectomy is done separately, there is very little and sometimes no hemorrhage when the lens is removed, which of course greatly facilitates the operation. Another important reason for a preliminary iridectomy is, that a patient, by having once gone through the iridectomy operation, always behaves better when the real cataract operation is performed. I might say at this juncture that I consider the cataract operation *with* an iridectomy a safer and surer operation than the operation without an iridectomy and for this reason I always make an iridectomy.

The iridectomy should be as small as possible and this can be done by holding the scissors vertically, instead of horizontally.

After the iridectomy, I take out the speculum, as this renders the escape of vitreous much less likely to occur. I then pull up the upper lid with a strabismus hook and rupture the capsule with the cystotome, which should always be very sharp so that the capsule can be easily and accurately ruptured. The assistant pulls down the lower lid with his finger. In this way the eyelids are freely opened without pressure on the eyeballs. I then press upon the lower portion of the cornea with a spoon, to gently coax the lens from its bed and at the same time I gently press upon and depress the posterior lip of the incision with another spoon in order to open the wound and encourage the escape of the lens, which should always be slowly and not suddenly delivered.

For the last few months I have been using the lid elevators of my friend, Dr. W. A. Fisher, of Chicago, instead of a speculum, and wish to say that I regard them as infinitely superior to any speculum that has ever been devised for a cata-

ract operation. An assistant inserts one elevator under the upper lid and another under the lower lid. The two elevators are then gently but firmly separated and raised, thus opening the palpebral space to its fullest capacity. This provides a wide operative space and at the same time maintains a control over the lids, orbicularis muscle, etc., unobtainable in any other manner. The danger of winking, lid movements, etc., is thus eliminated and the operation, therefore, made just so much safer. The assistant, while spreading the lids apart by the elevators, should at the same time *lift* the lids from the eye, thus preventing all pressure on the eyeball and very much lessening the liability of escaping vitreous. The freedom from this accident renders the expulsion of the lens much easier and safer. If the anterior chamber is irrigated, it can be done with much greater assurance and safety than by any other method. I leave the elevators in until the end of the operation and then gently remove them.

Great care should be taken that the upper lid and lashes do not pass into the corneal space made by the incision. This might produce infection. In case the lens seems too large for the incision, its *forcible* exit should not be encouraged, but the incision should be carefully enlarged by small, curved, round-pointed scissors.

After the lens has been delivered and any remaining lens substances gently stroked out (that can safely be delivered), I carefully wash out the anterior chamber with warm, sterile normal salt solution with a specially devised irrigator, which I here exhibit. This consists of a rubber bulb, large enough to fit the hand. The rubber should be of the best quality—soft and pliable—and should not flake so that particles from its interior can be found in the solution. Some years ago I devised this irrigator and had it made with a glass end, about the same shape as a strabismus hook, only flattened in such a direction that the hand enclosing the rubber bulb could be at the *side* of the patient, instead of *above* the eye, which is always a constrained position from which to operate a bulb with a bent end. The glass end proved to be difficult to make correctly and uniformly. Besides this, it broke easily and was a source of considerable annoyance. I, therefore, had an end made of gold and since then have had no trouble with the irrigator. It is

made by F. A. Hardy & Co. of Chicago and is sold for \$15.00. It is a perfectly satisfactory anterior chamber irrigator. Not much force should be used. Loss of vitreous should be borne in mind and air bubbles should be ejected from the irrigator before it is used. In an unmanageable patient, I sometimes am afraid to use the irrigator, as a sudden upward turn of the eye, or a quick motion, might inflict irreparable damage. I prefer to leave some cortical substance and take care of it afterward by a needling or some similar operation, if it proves to be necessary. I take great care, however, to free the incision of all debris. The pillars of the coloboma should be carefully replaced by a spatula with stroking movements outside the cornea, if possible—inside the cornea, if necessary. The bi-chlorid and atropin ointment of Dr. White of Virginia is then placed inside the lids with a probe and a suitable dressing over both eyes is applied. An aluminum shield is also placed over the operated and slightly covered eye. In two or three days only the operated eye is protected.

I give a chloral hydrate and bromide of potassium mixture at bed time for one or two nights to insure rest.

I have the hands gently tied with a bandage cloth to the foot of the bed for a few nights, and if possible, secure the services of a day nurse and night nurse for nearly a week to constantly watch the patient and administer to his wishes.

I usually secure immobility of the bowels for two or three days by giving a small hypodermic dose of morphin. I then give a mild laxative.

I trust I may be pardoned for dwelling upon these simple details of the management of cataract cases. It may be borne in mind, however, that such operations are essentially a chain of small, fussy details and that the operator who the most carefully observes details will, other things being equal, obtain the best results. I also request that these fragmentary notes shall not be regarded as a description of the cataract operation. They are merely intended to convey to your minds some of the details that I have found useful in my operative work.

7 West Madison Street.

DISCUSSION (*Abstract*)

DR. OSTROM (Rock Island) asked Dr. Allport whether he had gotten particles of White's bichlorid ointment in the ocular chamber afterwards causing

trouble. He had seen that twice, and with no ill results whatever.

DR. W. HARRY WOODRUFF (Joliet) thought the success of the operation depends as much on the condition of the individual as it does upon the method of the operation. More attention to that phase of the question is given at the Eye and Ear Infirmary than formerly. Infirmary patients particularly need the attention of the dentist and they are now getting that attention before cataract operation is done.

He believes that the infections that occur following the cataract operation, though they may not be exactly metastatic infections, originate in the patient himself.

On the question of illumination he hoped that the new institution will have daylight at least when it is possible, as he finds good daylight is better than any other light for the cataract operation.

He thinks the various methods of holding the lids, and the use of the speculum are secondary to the question of anaesthesia; for if the patient doesn't feel pain during the operation, he is not very apt to make any trouble.

He emphasized the use of a protector for the eye, such as the papier mache' mask, which has presented injuries from the patients' hands.

DR. TIVNEN thought that many details of the operation could be profitably discussed but that the principal thing is to adopt a sensible, sane technique, to keep at that technique and have the proper sort of assistance to help you to carry it out successfully. He believes that eye men are a little lax in securing the proper sort of help in our hospitals. The interne service in most of our hospitals is so regulated that they change service just about the time you have trained an assistant to hold a speculum properly. The nursing system is just the same. You get one corps of nurses today and you perhaps get a new corps tomorrow.

As to the lectures to the nurses, he suggested that any eye man who is on the staff of any hospital or who takes his cases to these hospitals should insist that he be given permission to lecture to the nurses on this eye work, and if possible, he should institute or create a surgical nurse who would assist him and be on his service at least six months. The same way with the internes.

He referred to Dr. Allport's success, after many years effort, in getting an interne and a surgical nurse of his own at St. Luke's. After many years at Mercy Hospital he also had his own interne, operating room and nurses.

He never likes to operate on a patient who has not been in a hospital two or three days. During that period the staff endeavors to get the gastro-intestinal tract in condition, examines into the teeth, the tonsils, the sinuses and the nose; looks over the chest, the blood pressure, etc. Endeavors, in short, to answer the question: Is this patient a safe risk for this cataract extraction.

DR. HOFFMAN believed that one thing that should be emphasized in these operations is the complications, particularly the complications after the operation, which he thinks will be taken care of in a great

measure by very few dressings, the first dressing not made until at least four days after the operation, and the second one four or five days after that. Also that looking after the local infections before the operation will do away with a great many of the after complications such as glaucoma.

DR. WOODS (La Salle), as interne under Dr. Beard and Dr. Dodd, put the patients on the table and instructed them, giving them an opportunity to feel how the speculum or the retractor feels in their eye. Those patients that had that previous instruction very seldom gave any trouble on the table as to squeezing or other bad behavior.

He also noted the necessity of taking cultures to determine the kind of bacteria in the eye.

DR. FAITH (Chicago) opposed having the patients in the hospital long enough to study their general conditions. He thought the complications that arise post-operative because of conditions existing within the patient himself are clearly metastatic.

He suggested trimming the eyelashes to prevent would infection.

He recommended the use of local anesthesia by subconjunctival injections as an excellent way to get complete anesthesia, particularly in nervous patients.

A man who is able to handle the complications as they arise, the presenting of vitreous, and the iris which seems to prolapse and remain prolapsed, hemorrhage, etc., will find he has nothing to worry about.

DR. ALLPORT: Dr. Ostrom asks concerning the bichlorid ointment getting into the anterior chamber. I am using this daily, have for years, and I have never seen this complication. I don't say that it may not occur, but personally, I have never seen it.

Dr. Faith speaks about trimming the lashes. Of course, we have all done that, I suppose. I have done it and abandoned it, simply because I thought my patients didn't get along as well. The stump of the lashes seemed to irritate them and caused a great many complaints, and so I gave it up. Of course, that is only my own experience, however. I don't pretend to dictate to anybody how they shall do. My partner, Dr. Wood, always trims the lashes. He wouldn't operate on a cataract without it. I know that is the custom. I have tried it a good many times, and I personally have abandoned it.

Dr. Faith speaks about the subconjunctival injection of cocaine. Of course, that does produce profound anesthesia. As far as I am concerned, in my own hands, this has not proven to be necessary, and it is an extra added attack, to use a military expression, upon the eye which I would rather get along without. I think that a few doses of holocain and cocain solution produce all the anesthesia that is necessary, in fact, absolute anesthesia in my hands.

Dr. Hoffman does not like to open his eyes short of four days. That would not be my judgment—maybe it is on account of curiosity, being more or less of a curious individual, I like to see how things are getting along. But I must say, while I don't believe in opening my cases on the very next day, I like to open my eyes within forty-eight hours after operation and

see how things are getting along. I have recently had a case of suppuration following a cataract extraction that freezes my blood even to think about. We all get infections once in a while, and I think that the only way that we are going to cope with this infection, if it happens to occur, is to get there early in the game and begin work and endeavor to combat the infection. If you let four or five days elapse before you open your eye, why your chances are gone—that is all. At least, that is my judgment.

With regard to these preliminary examinations, gentlemen, I simply say that I thought of that as something that we all do. My cases and your cases, I am sure, are all gone over thoroughly before they are operated upon, with regard to their general condition, urine analysis, teeth, nose, throat, tonsils and lacrimal apparatus and I did not mention that in my paper on that account.

I think Dr. Woodruff must have misunderstood me in my paper. He said that I afforded no protection over the eye after the operation. I think that if he will recall the paper, I said that I place an aluminum shield over the eye, besides tying the hands of the patient and getting a day and night nurse.

Now, this operation is an operation of detail. There are a hundred details that you can't bring out in a paper. I think that perhaps the most important detail is just exactly what Dr. Tivnen has brought out, and that is to operate under surroundings that are conducive to success. I don't see how men can get along in going from one hospital to another, for instance, and putting up with the various inconveniences of the various hospitals and the various internes and the various nurses. I don't see how you can have any sense of security at all. I don't see how you can have any sense of security even if you confine yourself to one hospital, unless you have some kind of an organization in that hospital by which you are reasonably certain that you are getting good service.

I began years ago in St. Luke's Hospital to build up a service, and I have written more or less upon the subject—some of you may have read something about it. But at all events, at the present time, after years of work, I have there now a ward of my own in which we have two day nurses and two night nurses. I have an eye and ear superintendent who has been with me seven years. She is one hundred per cent. perfect. We only change the eye and ear internes at St. Luke's once in one year, and they get to be very, very valuable, of course. I couldn't work under the various changes that I used to, wandering around from one ward to another, not knowing whether this solution was sterile, not knowing anything about these eye-droppers and that ointment, and passing from ward to ward, dependent upon these various ward nurses. I couldn't do that. Life would be simply miserable to me. I must have system. I must have organization, and what I have been able to accomplish in St. Luke's hospital by years of work, every one of you gentlemen present can accomplish in the hospitals in which you are working, if you will only just make up your minds that you will. I can assure you of one

thing, that if you will only get a systematic organization in the hospitals that you are working in and confine your work to one hospital, that then you will begin to live and to take life easy.

STATUS—THYMUS—LYMPHATICUS* WITH REPORT OF CASE

EDWARD F. GARRAGHAN, A. M., M. D.
CHICAGO.

The lymphatic state and especially the condition of enlarged thymus gland has engaged the attention of scientific observers from the early days of the seventeenth century to the present time. Some of the earliest and most prominent pathological anatomists recognized the enlarged thymus as a pathological anomaly and their investigations together with those of the more recent school emphasize the importance of the subject. Felix Plater in 1614; Richa in 1723; Bichat and Verdries in 1726 and Friedleben and others in the early part of the nineteenth century made special studies of this subject.

Carl Rokitsansky in his textbook (1842-46) under "Diseases of the Thymus Gland," says: "Its abnormal enlargement is almost entirely restricted to children in whom we simultaneously observe a great predominance of the whole lymphatic system, rachitis and hypertrophy of the brain." In more recent years the Vienna School under the direction of A. Paltauf, has awakened interest in the subject of status lymphaticus both from a clinical and pathological standpoint. History points to a long list of mysterious deaths, all of which were sudden and all of the subjects were found to possess an enlarged thymus gland.

Sudden death during surgical narcosis either in complete or incomplete anesthesia and especially in such operations as tonsillectomy and adenectomy commands our attention. We must realize that the condition of status lymphaticus is a menace which must be reckoned with by every operator. Anesthesia seems to have been the exciting cause in a great many of these cases. In 1895 Kundrat published ten cases of death under or immediately after anesthesia by chloroform or a mixture containing it, collected from post mortem records in Vienna. All of these cases on section presented marked characteristics of the lymphatic diathesis. According to Kundrat the

*Read before the Section on Eye, Ear, Nose and Throat, at the 68th Annual Meeting of the Illinois State Medical Society at Springfield, May 22, 1918.

autopsies showed uniform results which were characterized by a thymus of greater or less size, an enlarged spleen, tumescence and hypertrophy of lymphatic glands in various regions, but especially of the mesenteric retroperitoneal and cervical.

There was also a noticeable prominence and multiplication of the follicles at the base of the tongue and in the pharynx. There was enlargement of the tonsils and swelling of the solitary follicles and Peyer's patches in the intestines as well as a dilated heart, especially the right ventricle and extremely flaccid cardiac muscle. There were sometimes seen less constant features such as pallor of skin, enlargement of tongue and thyroid, infantilism, edema of lungs and brain, fatty changes in liver and alterations in bone marrow.

According to Halsted—Kaliska states that for many years he performed about six autopsies every year on persons dying from cardiac symptoms under chloroform and each one showed signs of status lymphaticus. In the children's clinic at Getz, the records show that during the last twenty years in every chloroform fatality there was present lymphatic hyperplasia. It was stated by Elser, that when status lymphaticus was present, death under chloroform almost always occurs. According to Cocks where status lymphaticus is present, death may occur not only during or immediately after narcosis but as late as 24 hours after operation.

L. M. Hurd reports the case of a Negro child 2½ years of age where death occurred twenty-five minutes after tonsil operation. A very large thymus gland was found at autopsy. William Wesley Carter of New York, reports the case of a child of five years of age who died suddenly three hours after a tonsil and adenoid operation. An expert anesthetist had been employed. There was very little bleeding during or after operation. The autopsy showed thymus gland enlarged reaching over base of heart and blood vessels and weighing 21½ gms. There was great enlargement of mesenteric glands and solitary lymph glands and retroperitoneal glands. Numerous other cases could be cited where the condition of status lymphaticus was the prime factor in causing death during or after tonsil and adenoid operations. Curative sera of all kinds but especially salvarsan and diphtheria antitoxin are so much in use at the present time that it is

well to keep in mind the secret danger that attends their administration.

I will refer briefly to the sudden death of the young son of Prof. Langerhans, of Berlin, who died very suddenly soon after the injection of small doses of diphtheria antitoxin, used by his father for preventive purposes. At the time this case was very much discussed and several theories were advanced to explain the accident, special stress being laid upon the possible toxic effect of the antitoxin. The post mortem examination revealed certain evidences of status lymphaticus such as general glandular enlargements so that such eminent pathologists as Palauf and Escherich, concluded that death should be attributed to the condition of status lymphaticus.

Another case of more recent date is reported by Hassler in California State Journal of Medicine, May, 1917. This is of great interest and importance to those engaged in city health departments. The health department was called upon to administer a prophylactic dose of diphtheria antitoxin to a seven year old boy whose sister had been ill with diphtheria, and who had been removed to the city isolation hospital. The department physician called and found an apparently normal healthy child. After the usual preparation he injected subcutaneously 1000 units of diphtheria antitoxin of a standard brand. As the child seemed to be all right the physician left the house ten minutes after the injection. Ten minutes later the child was suddenly seized with violent cramps, had great difficulty in breathing, and passed off in what the mother called "a severe convulsion." It might be well to note here that on the day previous the sister of this boy, who was the active case, had received intravenously 2000 units of the same antitoxin and on the following day in the same manner an additional 1000 units, and made a complete recovery. At the post mortem examination a diagnosis of status lymphaticus was made upon the pathological findings. A markedly enlarged thymus gland together with the general enlargement of the lymph glands of the body gave ample evidence of the cause of death. As a direct result of this fatal case the California health department now requires: first, the written consent of parent or guardian to administer antitoxin; second, the sanitary inspector must

remain with the patient or the contacts not less than one hour after its administration.

DeForrest, in the *American Journal of Obstetrics*, has recently reported the case of an infant dying half an hour after birth. An autopsy showed a complete atelectasis of both lungs and the inflation of the same through a tube was impossible. A tracheal obstruction was found to be present which was due to an enlarged thymus gland. The trachea was opened and found to be quite flat so that the anterior was compressed against the posterior wall. A canula was then passed below the obstruction and through it the lungs inflated without the slightest trouble. This proved that the atelectasis which existed was not due to lack of normal development of lung tissue but to the mechanical obstruction produced by compression of the trachea by an enlarged thymus gland.

A recent case and one in which I was indirectly interested occurred in the practice of one of my colleagues. A girl of twelve and apparently normal was operated upon for a frontal sinus abscess. The usual Killian incision had been made, pus had been evacuated through the opening, and the frontonasal duct was being explored when the child suddenly died. Every known means was used to resuscitate but without avail. There seemed to be complete cardiac and respiratory paralysis. Ether anesthesia was administered by the hospital interne who seemed to use all necessary care. The post mortem examination showed the brain and heart normal, but it also presented an enlarged thymus gland about the size of a man's hand.

The sad part of this subject and that which reflects most upon our scientific investigation is that the great majority of these cases have not been diagnosed except post mortem. Recent investigations have brought to light many points in the physical findings of these subjects which have been hitherto unknown, and the Roentgen ray has opened up a new avenue of hope not only as a means of diagnosis, but in the nature of treatment and ultimate cure. What are the symptoms and signs that lead us to a correct diagnosis of enlarged thymus gland or the condition of status lymphaticus? The great majority of the cases are found in infants and children. Friedlander calls attention to some physical signs which are of the greatest importance.

There is a bulging mass detected in the jugular and an enlargement of the area of normal thymic dullness on percussion. In a young child you will perceive a definite form of thymus dullness in the shape of an irregular triangle or truncated cone whose base is the sterno-clavicular junction and whose apex is the second rib. Laterally the dullness extends but very slightly beyond the sternum. Dullness beyond the sternal margin, especially dullness continuous with the area of heart dullness is always suggestive of thymus enlargement.

Symptoms of suffocation are very common. There is dyspnea, which is continuous or remittent, while the attacks of suffocation are accompanied by cyanosis and stridor. When the dyspnea is continuous the difficult respiration increases until the child develops a suffocative attack with intense cyanosis and death comes rather suddenly.

In the intermittent form of dyspnea the child is quite normal for a long period when it is suddenly seized with a suffocative attack accompanied by cyanosis and convulsive movements followed in a few moments by a return to normal state. These symptoms point to a stenosis of the air tract.

There is an inspiratory and expiratory stridor or whistling respiration. The stridor is sometimes congenital or it may develop soon after birth, and is subject to exacerbation on very slight provocation, such as screaming or crying or as the result of acute infection. There has also been noted in these subjects an inspiratory dilation of the nostrils, cyanosis and marked retraction of the supra-clavicular infra-clavicular and intercostal spaces. D'olsnitz emphasizes the unusual extent and intensity of dullness over the manubrium and to the left. It has also been observed that in the young adult males the hair on the head, the pubic and axillary hair are very dry, brittle and thin; while it is observed that the thighs and arms are rounded and plump, and in the male is seen the perineum of the female type.

The follicles at the base of the tongue are abnormally large as well as the faucial and lingual tonsils. The presence of these symptoms either singly or in combination should make one suspicious and lead to further observation. The x-ray should be our next step in the diagnosis. With the wonderful progress made by roentgenol-

ogists in the use of the rays we have not only a definite means of diagnosis, but also a therapeutic agent of proved value in the treatment of enlarged thymus gland.

Friedlander claims that the roentgen ray will give us positive evidence of an enlarged thymus gland. Children with enlarged thymus glands who were treated with the roentgen ray were cured of their symptoms and remained well, showing no further constitutional abnormality. In doubtful cases where symptoms of thymic asthma appear without clearly demonstrable physical signs, the roentgen rays treatment given as a therapeutic test will often clear up the diagnosis.

Until very recently about the only treatment known to be of any value was thymectomy and according to the results summarized by Parker the operation is not a great success. According to the statistics of Parker, one of the advocates of thymectomy, of fifty patients operated upon, seventeen died, which gives a mortality of 33 1-3 per cent. Compared with this the roentgen ray seems to be absolutely safe and very efficacious. According to Friedlander in the Cincinnati series of one hundred cases there were four deaths.

The treatment is regulated according to the character of the case. The dose depends upon the severity of the symptoms. A single exposure is often sufficient in mild cases. Unless symptoms call for more frequency an interval of one week should elapse between treatments. However, no untoward effects from the treatment have been observed in young children where the second exposure has been given on the second or third day. Improvement in the symptoms is usually noticed within twenty-four to forty-eight hours after treatment.

In conclusion I would emphasize the danger of operating in this condition under general anesthesia. It is possible to make a diagnosis of status lymphthicus from the physical findings of the patient.

The presence of an enlarged thymus gland is made absolutely certain by the roentgen ray, and the therapeutic value of the x-ray in this condition has been demonstrated.

DISCUSSION.

(Abstract)

DR. T. J. H. GORRELL: It is very important to members of this section to keep in mind a few of the symptoms of thymus lymphaticus, in order that some time in our practice we may save the life of

one of these patients. The history of dyspnea, choking spells and cough should make us consider the thymus.

For operations like tonsillectomy, we do not usually put the patient in the hospital a few day for observation. However, one of these patients might have a hypertrophied thymus and pass away with the first few whiffs of the anesthetic. This might not happen if we observed the appearance of the skin, which is a muddy yellow, an unhealthy fat, as if the tissues were water-logged. It would only take a few minutes to percuss the area over the thymus, and if we thought we observed a dullness, percuss the heart and see if it pushed downward and to the right or left. If so, auscultate the area of the thymus and if you get a blowing bronchial breathing, it is time to call off the operation and put the patient on the observation list.

If the patient is under the anesthetic and there is trouble with the breathing and the usual methods of resuscitation have been tried, sit the child up, flex the head on the sternum and press your finger downward and inward in the episternal notch, with the idea in mind of giving more room in the upper opening of the thorax by returning the hypertrophied thymus to the thoracic cavity, as it may have been pulled upward by the thyro-thymic ligament.

The distance from the spinal column to the sternum is so small that if one would hyper extend the head of a child with an enlarged thymus, it would compress the trachea, and some of the larger vessels like the common carotid and innominate. It would also put on the stretch the inferior laryngeal nerve. The pressure might cause dyspnea and cyanosis, and the pressure on the nerve result in coughing.

If we should be so unfortunate as to lose a patient, using ether, consider hypertrophied thymus; if chloroform, consider ventricular fibrillation; if following antitoxin, consider anaphylaxis as the cause of death.

DR. POLLOCK: Our patients come in to have the thymus removed because the child can't breathe well. These children are too fat for their age, and have an enormous appetite. In every case before we operate we have an x-ray picture made for the thymus. In addition to that, we take a blood examination which is very important and will show a large increase in the lymphocytes, sometimes fifty to sixty per cent. of lymphocytes.

Death in these cases is not brought about by the pressure of the thymus as much as by a collapse of the heart, and that is due to the altered ductless gland secretion which stimulates the heart to do its work.

In several cases the x-ray picture showed a shadow, and from one to three treatments were enough to reduce the thymus gland so that it eventually disappeared.

DR. EDMONDSON: According to the experiments that have been made upon animals by Eberhard and other investigators it is the pituitary—not the thymus which is responsible for this.

You have referred to these fat babies; but you see adults in the same condition, people with slender arms and legs and heavy hips. Those conditions, according to these physiological experiments are largely due to the deficiency in the pituitary secretion.

The giving of pituitrin internally or in hypodermic dose has cleared up many of these cases, according to Eberhard. The anesthesia areas in these cases of multiple sclerosis are due, he thinks, largely to the fact that you have inhibited the action of the pituitary body, and when that is accomplished, you have anesthesia. It may be that your anesthetic has overpowered a deficient gland and your patient is dead.

DR. GARRAGHAN: I thank the gentlemen very much for the discussion of this paper. In closing the discussion I want to emphasize again the importance of the subject and the necessity of being always on our guard and ready to recognize the condition when it presents itself.

FOCAL INFECTION IN RELATION TO DISEASES OF THE EYE.*

THOMAS FAITH, M. D.

CHICAGO.

There is probably no subject in recent years that has attracted more widespread interest among the medical profession than the subject of focal infection, and the increasing recognition and study of the principles laid down by Rose-now and Billings, Poynton, Weil, Irons, LeCount and others, are bearing abundant fruit, not only in the better scientific study and understanding of frequently obscure points in the cause of general and local diseases, but also in the therapeutic application of these principles and the consequent relief of patients suffering from many disorders.

The more we study the relation of our special subject to general conditions and local conditions in other parts of the body the more we realize the necessity for a thorough general understanding of physiology, pathology, bacteriology, and general diagnosis, and the more we feel that we are no longer ophthalmologists, but rather physicians and surgeons working in the special field of ophthalmology.

The relation of eye diseases to focal infection is a very broad subject and one that can hardly be dealt with in a thorough and complete manner in the time allotted to a paper in this section. A brief general consideration of the subject and a review of the opinions of some of the

current writers being about all that can be attempted at this time.

Billings¹ states that infection of the teeth and jaws with the especial development of pyorrhea dentalis and alveolar abscess, infection of the faucial and naso-pharyngeal tonsils, and of the mastoid, the maxillary, and other accessory sinuses, are the most common forms of focal infection. He also lists chronic infection of the bronchi and bronchiectasis; chronic infection of the gastro-intestinal tract and auxiliary organs of digestion, including cholecystitis, appendicitis, intestinal ulcers and intestinal stasis due to morbid anatomical conditions; chronic infection of the genito-urinary tract, including metritis, salpingitis, vesiculitis, prostatitis and pyelitis, as not infrequent sources, acting sometimes as the primary and sometimes as secondary foci from which infectious material is carried to other parts of the body; and he further calls attention to the fact that infected lymph nodes, which are secondary to some of the primary foci named, become additional depots of focal infection, persisting many times after the etiologic distal primary focus has been removed or has spontaneously disappeared.

The bacteria and toxic products from these various foci are usually disseminated through the blood stream; they are carried as emboli to the smallest and often terminal vessels in the tissues where they lodge, and if virulent and in sufficient number, and if they have a specific elective affinity for these tissues they will excite characteristic reactions and morbid tissue changes; these tissue changes depending upon the type and virulence of the organisms as well as the character of the tissue involved.

The specific tissue reaction according to Rose-now² consists of a local inflammation with endothelial proliferation of the lining of the blood vessels, with or without thrombosis, hemorrhage into the immediate tissue, positive chemotaxis with resulting multiplication of the leukocytes and plasma cells in the infected area, or fibrinoplastic exudate with local connective tissue overgrowth; also the infectious micro-organisms may be carried by the lymph channels and nodes directly to the tissues affected, or, as previously mentioned, to the nodes which may become infected, and thus act as new depots for distribution. Sometimes suppuration of the lymph nodes

*Read before the Eye, Ear, Nose and Throat Section at the 68th Annual Meeting of the Illinois State Medical Society at Springfield, May 22, 1918.

occurs with infection of contiguous tissues, thrombophlebitis of a neighboring vessel and bacteriemia. At other times an infected lymph node may act as a barrier to dissemination by collecting the invading organisms in a tissue environment which renders them temporarily inactive.

Endotoxins are carried by the blood stream in the same manner as the bacteria and produce tissue reactions of various grades, and in some instances appear to be the sole cause of the tissue changes, as search for bacteria in some of these conditions has been almost invariably unsuccessful. There is, however, a growing belief that the failure to find bacteria in these cases is not an absolute proof of their absence.

Of course, it is to be remembered that cases in which enucleation of the eye is necessary are not common, and pathological proof often cannot be obtained in this field except in severe types of choroiditis, such as solitary tubercle of the choroid, tubercle of the iris, and the so-called metastatic panophthalmitis, in which conditions bacteria have been found in the tissues of the eye, or their presence has been proved by animal experiments and cultural methods. However, Hepburn³, Jackson⁴ and many others believe that in most uveal inflammations (and this is the field that has been studied most carefully), it is probable that living bacteria reach the uveal tract, and by their presence and toxins, cause inflammation.

We have all known for many years that tubercular and syphilitic eye lesions, with certain well defined exceptions, were not usually due to primary infection, and that some of the cases of gonorrheal inflammation in the eye were undoubtedly endogenous in origin; the etiologic factors having been carried usually from the site of primary infection to the organ of vision.

The bacteria which are most commonly found in focal infections are the streptococcus-hemolyticus, viridans, mucosus and the pneumococcus which constitute the streptococcus, pneumococcus group, the gonococcus and the tubercle bacillus. Numerous other organisms may be concerned in various processes, but these are the most common.

For many years ophthalmologists have been prone to credit many eye inflammations of obscure origin to what has been termed auto-intoxication of intestinal origin; and we were

not alone in this opinion, as the internist made quite as frequent use of the theory in connection with supposed metabolic disturbances from this source.

Billings⁵ says there is doubtless some truth in the theory of intestinal infection, but he believes that the pathogenic micro-organisms in the intestinal canal which remain there as infectious organisms gain entrance chiefly by swallowing infectious material from the mouth, throat and nose, and also through infected food and drink, especially milk, for milk is apt to contain streptococci which are virulent, or may become so. These pathogenic bacteria probably infect the lymph tissue of the intestine, or may pass into the lymph nodes of the mesentery and set up active or passive infection. A streptococcal infection from a focus in the head may hematogenously cause appendicitis, cholecystitis, peptic ulcer and pancreatitis, and from these new foci further extension of the infection may occur through the lymph and blood streams, again carrying the infection to some remote part of the body.

In view of these facts then it is undoubtedly a fair assumption that eye inflammations which originate in the intestinal tract are, in the majority of instances, due to bacterial invasion of the structures of the gastro-intestinal tract and its auxiliary organs, and not simply to the presence and development of certain bacteria in the intestinal contents, and Morax⁶ reports a case in which iritis occurred as a complication of non-amebic dysentery. The iritis developed with symptoms of general infection of the eye after the acute stage of the dysentery had passed.

The structures which most frequently suffer as a result of focal infection are those of the uveal tract; though the conjunctiva, cornea, sclera, retina and nerve may all be the site of disease of focal origin.

The conjunctiva and lids have been attacked by tuberculosis in numerous instances, and it must be admitted that excepting the conjunctiva and lids very few cases of primary tuberculosis of the ocular structures have been recorded in the literature.

Gonorrhea of the conjunctiva is usually due to the direct introduction of gonococci into the eye by the carelessness of the individual who is suffering from a specific urethritis, or it is due to

contact with gonorrheal discharges from the vagina during birth. There is, however, a type of gonorrheal conjunctivitis called metastatic gonorrheal conjunctivitis which is of endogenous origin, and which occurs in adults almost exclusively. It occurs occasionally with acute urethritis, coming on a number of days or weeks after the onset of the disease, and is not infrequently associated with gonorrheal rheumatism and chronic urethritis. It is usually bilateral. It seems to be an infection of the sub-epithelial tissue of the conjunctiva, and is characterized by edematous swelling principally of the ocular conjunctiva with pain, sometimes quite severe, redness and lachrymation; or even thin watery discharge from the conjunctiva. No gonococci can be found in the conjunctival sac or in the discharge, and it has been assumed that it is due to the toxic products of the organisms.

The so-called gout of the conjunctiva is undoubtedly of endogenous origin and usually occurs during a so-called gouty disturbance in some of the joints, which joint affections may be secondary foci of infection, and which in turn may be due to some other remote focus. However, when we have determined exactly what gout is, we may be able to determine the exact nature of these conditions.

Herpes of the lids, conjunctiva and cornea and particularly the herpes zoster ophthalmicus, which for years has been known to be due to an inflammation of the trunk of the trigeminus, or to disease of the Gasserian ganglion, which was shown by Head and Campbell⁷, and which is identical with the changes found in the posterior root ganglia in zoster of the trunk and limbs, is unquestionably due to focal infection in some instances according to Rosenow⁸, who says that it has long been known that herpetic eruptions may be induced in animals, and that like lesions occur in man from injury or infection of the ganglia or the sensory root of the cranial or spinal nerves; that he has demonstrated that herpes zoster may be the result of specific infection of the ganglion of the posterior roots of the spinal nerves and the etiologic infectious micro-organisms have been isolated from infected tonsils and other foci. With these strains of isolated bacteria he has produced herpes zoster in intravenously injected animals, and the streptococci have been

recovered from the posterior root ganglia of the inoculated animals.

The close relation between corneal herpes and neuropathic keratitis, which has been recognized for years, makes it extremely probable that this condition, when it is not due to operation or injury, is many times due to focal infection.

We have all noticed a causative relationship between recurrent phlyctenule of the conjunctiva and cornea, and diseased tonsils and adenoids, and the prompt termination of an attack as well as the frequent cure of the disease after the removal of these structures in many cases has demonstrated to us that they have been, if not the source of infection, at least a strong contributor to the cause of the disease.

I am aware that phlyctenules have been produced by the injection of dead tubercle bacilli into the blood stream (Bruns⁹), and they have also been produced by the injection of staphylococci directly into the tissues; and Weeks¹⁰ states that the staphylococcus can always be cultivated from an unbroken phlyctenule; but, in the same manner as diseased tonsils may be the cause of acne according to Mosher and others, so may they be the cause of phlyctenules.

Sclero-keratitis and anterior scleritis are both undoubtedly due to focal infection; sometimes the infection is tuberculous in nature, probably secondary to an old lung focus or bronchial gland involvement, and many times it is due to infection in the nose, throat or mouth. The results obtained by tuberculin therapy and also by surgery of the nose, throat and mouth in removing the trouble, undoubtedly point to its origin.

As I have previously mentioned, the uveal tract suffers more frequently from focal infection than any other part of the eye (and this is as we would expect it on account of the vascularity of this coat), and de Schweinitz¹¹ in a paper before the Seventeenth International Medical Congress stated that, excluding the syphilitic, tuberculous and sympathetic varieties of chronic uveitis, he believed every other case to be of septic or toxic origin. He emphatically discredits the so-called gastrointestinal auto-intoxication in relation to these affections, and he believes that the dependence of uveitis upon gout is not so generally admitted as formerly, and that diabetes is only occasionally associated with the disease.

Lang¹² thinks that in most cases of uveitis it

is probable that the living bacteria reach the uveal tract and by their presence and toxins cause inflammation. He thinks that auto-intoxication should refer only to poisons formed during metabolism within the body.

Jackson¹³ thinks that where the cause can be definitely recognized it is, in nearly all cases, found to be some definite infection, and he further recommends in every case of irido-cyclitis or choroiditis the thorough investigation of the patient not only for syphilis, tuberculosis and gonorrhea, but also the examination of the nose and accessory sinuses, the mouth, teeth and throat, as a routine procedure; and one might add that the work of Brown¹⁴ and Irons has shown beyond doubt the prominent place which infections about the head occupy in the etiology of iritis, and Bell¹⁵ and Ridley¹⁶ have both shown how infection from bronchitis may cause the disease; the latter having obtained pure cultures of pneumococcus from the blood. And Reber¹⁷ reports iritis due to influenza, diagnosed by complement fixation and treated successfully by serobacterin.

Brown and Irons have also shown in the systematic study of 100 cases of iritis that there was frequently more than one source of infection in a given case; and that out of the entire number of cases only one was classified "no cause found."

Sympathetic ophthalmia, proliferative uveitis, is undoubtedly an expression of either infection of the uvea with its characteristic changes, and the emigration of the infection from the exciter to the sympathizer by way of the blood stream, or it is an anaphylactic reaction brought about by infection and disease of the uvea of the injured eye. Dunn¹⁸ describes it as an infective ophthalmitis; and Gifford¹⁹ urges against anaphylaxis, but strongly for infection; while de Schweintz, Billings and others have shown that a focal infection can and does cause anaphylaxis. Brown²⁰ evidently believes that foci of infection outside of the eye may have an important bearing on sympathetic ophthalmia, as he has seen marked improvement in sympathetic iridocyclitis following enucleation of the tonsils.

Aside from syphilis and tuberculosis, as previously mentioned, the choroid is affected by the so-called metastatic choroiditis, which has been observed in a great many eyes and has been

recognized for many years. It usually results from such diseases as cerebrospinal meningitis, puerperal fever, pyemia, pneumonia, influenza, erysipelas, malignant pustule, cholera, typhoid fever, and a number of other diseases, and as it frequently requires the removal of an eye, it has been studied bacteriologically and pathologically.

Hepburn²¹ says that except in cases of injury all inflammations of the choroid are caused through the blood vessels; these convey the micro-organisms and their toxins; the distribution and extent of the lesions depending upon the vessels of the layer in which lodgment occurs and the character of the organisms deposited in them; that if the inflammation is not too severe, these lesions run their course and undergo retrogressive changes, while the more violent inflammations pass on to panophthalmitis.

This condition represents the type of infection in which there is always a more or less severe bacteremia present; the organisms circulating in the blood stream being of a virulent type; the pathological changes in the eye are always severe usually resulting in either complete loss of vision or destruction of the globe.

Clegg²² has observed a case of acute pneumococcal choroiditis from the very onset; with the subsequent development of panophthalmitis with cultural study and animal inoculation which supports Hepburn's views completely.

Goulden reports nine cases of disseminated choroiditis, of which one was due to septic teeth, and in four cases of a single patch of choroiditis all were due to septic teeth or diseased mucous membranes. He thinks most of the cases in which only a single spot or a few spots exist in the choroid are of this type; i. e., septic, and that the type of uveitis which consists of a solitary patch of exudation in the choroid, with vitreous opacities and keratitis punctata is always secondary to a source of septic infection in some part of the body, and which source is usually a mucous membrane. He supports his opinions by bacteriologic study of his cases, and the results of therapeutic measures based upon these studies.

Hepburn²⁴, describing the same type of choroiditis, says: "An ill-defined whitish area in the choroid without any pigmentation is seen ophthalmoscopically if the examination is made early enough. Later on the increased vitreous

haze obscures the view, and the fundus is no longer visible until the acute stage has begun to subside. The appearance of keratitis punctata, which is almost always present, is coincident with the increase of vitreous opacity, which in severe cases finally obscures the fundus from view. After several weeks, or even months, the vitreous haze clears, and the choroidal scar shows with pigmented edges surrounding a white fibrous connective tissue patch, irregularly circular, with little or no pigment on its surface." These cases Hepburn says are almost never of syphilitic origin, but always have a history pointing to some other mode of infection; e. g., disease of the respiratory tract, teeth, intestinal tract, and accessory organs of digestion, etc.; the prognosis being good if proper study of the case is made and proper therapeutic measures instituted.

With the exception of injury and infection through the tract of the injury secondarily producing disease of the retina, most inflammations of the optic nerve and retina are endogenous in origin. Thrombus and embolism; e. g., resulting from disease of the vessel walls, or the heart lining interrupting the circulation, and resulting in secondary changes in the retina and nerve of a degenerative or inflammatory character, depending upon the nature and origin of the obstructive process. Among the causes which Weeks²⁵ recognizes as being responsible for venous stasis of the retina are syphilis, diabetes, traumatism, the exanthematous fevers and sepsis, all causing disease of the vessel walls, either preceded or followed by the formation of thrombus.

We are all more or less familiar with the neuro-retinitis of lues, which is characterized by disease of the retinal vessels and hemorrhage, and more recently Leber²⁶ has described a condition of miliary aneurysm of the retinal vessels occurring in young persons, and he mentions the fact that the disease may be tubercular. While Jackson²⁷, in a paper on tuberculosis of the retina, after reviewing the opinions of a number of other writers and recording the histories of two cases treated with tuberculin, concludes with this statement: "In the well-recognized association of intra-ocular hemorrhage and subsequent connective tissue formation constituting retinitis proliferans, we have the same association of pathological processes. The few cases which have been studied anatomically, the response of

a larger number of cases to the specific tuberculin test, and the relative recoveries that are now recorded to the credit of the recognized treatment for tuberculosis give sufficient basis for the view that tuberculosis of the retinal vessels is the essential nature of the clinical condition represented by the above cases of recurring retinal hemorrhage in young persons followed by retinitis proliferans." That other organisms besides the spirocheta pallada and the tubercle bacillus are capable of lodging in the retina and causing local pathological changes in proportion to their characteristics cannot be denied as the terminal character of the arterial twigs in the retina would tend to favor the lodgment of bacterial emboli, and their further development would be unhindered.

Luedde²⁸ thinks that intra-ocular tuberculosis is most frequently of nasal origin, and that both in the nerve and retina, and again in the choroid it is transmitted from the nasal sinuses and mucous membranes by way of the lymph spaces.

Optic nerve lesions the result of disease of the accessory sinuses of the nose are quite numerous in the literature, and the question as to whether the disease is conveyed from the various foci by the blood and lymph channels, or extends by contiguity of structures is one which is still debatable. Probably the most rational view is that some of the cases may be explained by one and some by the other route, and many by both routes; e. g., acute and chronic sinusitis may be the cause of infection of contiguous tissues in the orbit and through the lymphatic spaces of the optic nerve, which are brought into close anatomic relation, to the sphenoid and posterior ethmoidal sinuses in the canalis opticus.

Beck²⁹ argues that any effect upon the ocular structures caused by chronic sinus disease is probably due to the chronic engorgement of the blood vessels, which anastomose with those of the eye; and also by the pressure of the chronic overgrown tissue in the mucous membranes of the sinuses upon the nerves, which also communicate with the nerves of the eye; and that by continuity of structure the inflammatory process can and does extend to the orbit and beyond it, causing pressure on and inflammation of the ocular structures, which he thinks explains the existence of retrobulbar neuritis in some cases. And Stark³⁰ reports sudden blindness due to suppuration of

the accessory sinuses of the nose in three cases in which no fundus changes were visible, and which were relieved by providing adequate drainage of the ethmoids. He also quotes from the literature of 88 reported cases, viz., the optic nerve was involved in fifty-two cases, nine of them being optic atrophy, forty-three optic neuritis, and five of the neuritis cases showed a choked disk. In the nine cases of optic atrophy, the seat of the trouble was maxillary sinus, one; ethmoid, three; ethmoid and sphenoid, two; not located, three.

In the cases of optic neuritis the seat of trouble was maxillary sinus, three; maxillary ethmoid, one; maxillary ethmoid and sphenoid, two; ethmoid, eighteen; ethmoid and sphenoid, eight, and sphenoid, eight. Of the fifty-two cases the ethmoid was involved in thirty-three, showing the preponderance strongly in favor of the ethmoid cells in this trouble.

In the study of this series of cases, exophthalmus was present seventeen times. The external muscles were involved in eleven cases; restriction of the visual fields was mentioned three times, all of them being cases of long standing and there were fourteen cases of scotoma, twelve of which were central.

This author believes that all of the conditions enumerated can be ascribed to the same cause; one being simply a different degree of the other; the primary stage being a slight involvement, the maximum stage represented sometimes by orbital abscess or direct infection.

Brophy³¹ also reports sudden loss of vision with peripheral contraction of the field, and also scotoma followed by relief of symptoms after operation of sphenoid and ethmoid.

According to Billings³², acute pancreatitis when of mild degree is not infrequently the forerunner of chronic degenerative changes in the pancreas, which in turn may cause diabetes mellitus; and we are all familiar with the lesions of the nerve and retina in this disease. This author also relates the history of a case of spinal insular sclerosis of three years' standing in which the patient had suffered from chronic tonsillitis for years. The tonsils were enucleated and cultures of streptococcus viridans were obtained. The intravenous injections of these strains into two dogs produced ataxic gait and loss of power in all four extremities; post mortem focal hemor-

rhages in the spinal cord were found in both dogs, and from the focal softened areas of the spinal cord a like strain of streptococci were discovered.

The infectious etiology of focal hemorrhage and softening in the cerebro-spinal axis he says is an established fact, and in view of this experiment he recognizes the etiologic possibility of the disease being caused by a focus of infection; the eye manifestations of which are nystagmus, palsies of the external ocular muscles, retrobulbar neuritis with central or peripheral scotoma, optic neuritis, and either primary or secondary optic atrophy, which, according to some authors, is never complete. (Posey³³ and Spiller.)

I have intentionally omitted the consideration of the numerous eye symptoms of hyperthyroidism and the asthenopias which are claimed to be due to focal infection as they are functional rather than organic in their nature.

In concluding I wish to summarize the following points:

1. Focal infections are a very prevalent cause of eye disease.
2. The focus of infection is usually a chronic one, and is often in a quiescent state in so far as subjective symptoms are concerned on account of the low virulence of the infecting organisms.
3. More than one focus may have an etiologic bearing on a given condition at the same time.
4. The most common locations of the disturbing foci are in the head, viz., the nose and its accessory air spaces, the mouth, teeth and throat, the middle ear and mastoid; though foci may be found in other parts of the body, particularly in connection with the mucous membranes.
5. The most common types of infection are the streptococcus-pneumococcus group, the tubercle bacillus, and the gonococcus.
6. The structures of the eye most frequently affected are those of the uveal tract.
7. While removal of local foci and relief from symptoms is often a proof of the causative element, inability to find such a focus does not prove its non-existence.

31 N. State Street.

BIBLIOGRAPHY.

1. Billings, F.: Lane Lectures, 1918, p. 3.
2. Rosenow, E. C.: Jour. of Infect. Dis., 1909, No. vi.
3. Hepburn: Trans. Oph. Soc. United Kingd., xxxii, 216.
4. Jackson: Prog. Med., 1914.
5. Billings, F.: Monograph on Focal Infection, p. 10.
6. Morax: Annals d'Oculistique, 1917, Jan.
7. Head and Campbell: Brain, 1900, Sep.
8. Rosenow, E. C.: Jour. A. M. A., 1915, lxvi.
9. Bruns.
10. Weeks: Dis. of the Eye, p. 244.

11. de Schweinitz: Monograph on Etiology of Uveitis.
12. Lang: *Lancet*, 1913, May.
13. Jackson: *Prog. Med.*, June, 1916.
14. Brown and Irons: *Trans. Am. Oph. Soc.*, 1916.
15. Bell: *Archiv. of Ophthalmol.*, 1916, No. 1-xiv.
16. Ridley: *Ophthalmoscope*, 1916, xiv.
17. Reber: *Ophthalmic Record*, 1915, Nov.
18. Dunn: *Lancet*, 1916, Mar.
19. Gifford: *Ophthalmic Record*, Feb. and July, 1914.
20. Brown: *Trans. Chicago Oph. Soc.*, Mar., 1917.
21. Hepburn: *Trans. of Oph. Soc. of Un. Kingd.*, xxxii, p. 361.
22. Clegg: *Ophthalmoscope*, June, 1915.
23. Goulden, Chas.: *Royal Lond. Oph. Hosp. Rept.*, ix, pt. 3.
24. Hepburn: *Royal Lond. Ophthal. Hosp. Rept.*, xix, pt. 3.
25. Weeks: *Text Book of Ophthalmol.*, p. 428.
26. Leber: *Graefe's Archiv. of Ophthalmol.*, lxxxi, 1.
27. Jackson: *Annals of Ophthalmol.*, Jan., 1916.
28. Luedde: *Annals of Ophthalmol.*, Jan., 1916.
29. Beck: *Annals of Ophthalmol.*, Oct., 1916.
30. Stark: *Jour. A. M. A.*, Oct. 30, 1915.
31. Brophy: *Ophthalmic Rec.*, July, 1915.
32. Billings: *Lane Lect.*, p. 85.
33. Posey and Spiller: *The Eye and Nervous System*, p. 470.

DISCUSSION

Dr. Hoffman: A few years ago when there was a case of iritis, iridocyclitis or trachoma, particularly iritis and iridocyclitis, we thought first of syphilis or rheumatism, because rheumatism covered a multitude of sins. We looked for nephritis and possibly got back to the alimentary tract. Doing all we could for these conditions to find out where the cause lay, and it being negative, the patient got mixed treatment. Sometimes he went along for weeks or months and finally got well, maybe from the treatments and maybe from the time. But now we must go into the thing deeply, find out where the focus of the infection lies and look after that end of it.

Dr. Small: Apropos of this subject, I saw a statement two weeks ago from a French ophthalmologist that was absolutely astounding to me. He said that practically all cases of retrobulbar neuritis were caused primarily by infection about the roots of the upper molars.

Dr. Faith: I think that the one thing that we will have to look out for is to be careful not to go too far in this proposition. I had a very interesting experience some time ago. A woman who had suffered for two years with a cyst in the iris wanted to take out her tonsils and another wanted to do some operation on her nose, and another diagnosed intestinal disturbance of some kind. I did an iridectomy and the woman got well. It was just as plain as anything could possibly be. I couldn't understand the excuse for not being able to make that diagnosis. It was very plainly to be seen within the pupillary space as soon as you got into the pupil. It certainly shows that we have got to work together and in teams in order to find out what is the matter with our patients many times; unless we can definitely put our finger on a typical history of lues or an injury from the outside, we can't dismiss the case any more with a diagnosis of corneitis or iritis and let them go.

SOME EYE INJURIES THAT CAN BE PREVENTED.*

WILLIS O. NANCE, M. D.

CHICAGO.

There has been no period in our country's existence when so much has been accomplished along intelligent lines in public health work and the prevention of disease as during the past decade. Governmental agencies, state and municipal, as a rule are actively and conscientiously following the lead of the national public health service in an earnest effort to improve the health conditions of our various communities and to carry the propaganda of health conservation to the people themselves. To say that these efforts have met with marvelous success is known to everyone who has interested himself in observing what was accomplished in the Panama zone and what is occurring today in the national army.

Not only has the subject of disease prevention met with such gratifying results from the Federal government, but great strides are being made along the same lines not only in our own state but in many of the municipalities throughout the commonwealth. Exhaustive campaigns of education have worked wonders in disease prevention among the people.

Governmental officers have been loyally supported by private organizations in some instances, all working in the same common cause. The medical profession has by no means been apathetic—in fact, it has usually led the movements in community improvement. Employers of labor have well recognized the importance of good sanitation among their employes and their families and the economic phases of the situation have likewise appealed to their activities.

The foregoing all applies with equal force to the prevention of injuries. Educational propaganda, intelligent legislation and enforcement of laws and a careful supervisory control over children and employes will yet further reduce the number of accidents.

The prevention of eye injuries has been given a great deal of attention and thought during the past decade and eye surgeons who were in active practice ten years ago and are now will testify to the proportionately fewer number of injuries especially of certain varieties. As an example, I

*Read before the Section on Eye, Ear, Nose and Throat at the 68th Annual Meeting of the Illinois State Medical Society, at Springfield, May 22, 1918.

have for many years attended to the eye cases for one of the large railroads. When I first assumed the work for this company, injuries of the eye from broken locomotive water gauges were not particularly uncommon, but since the company has installed protective appliances these accidents rarely occur and I have not seen one of these cases for two or three years. To Dr. J. A. Denney, Medical Director of the Burlington Railroad, much credit is due for pioneer work along this line. His investigations and experiments perfected a protector which was adopted by his company, and is in use by all of the larger and more progressive railroad corporations today. Its employment has been the means of preventing many accidents and the saving of eyes which otherwise would have been lost.

Of course we all know that with even the best care and attention there are and always will be many eye accidents that are unavoidable. Let us direct our attention to some of those injuries that can be prevented. So-called harmless toys in the hands of children have been responsible for the loss of many eyes, as every experienced ophthalmologist can testify. The air rifle, so popular to the average male juvenile, has been instrumental in destroying the sight of many an eye. Why intelligent and careful parents will allow their children to play with so dangerous a toy is beyond my comprehension. It is probable that because the impact of the bullet shot from this gun is not sufficient to seriously injure when received on most parts of the body may be the reason for its presumable "harmlessness." The sale or gift of air guns should be absolutely prohibited by law. In Chicago I am glad to report that during the past year we succeeded in having such a law passed. Since its adoption I have not seen a case of ocular injury from this cause. The law should be made applicable throughout the state—in fact, it should apply to the country generally. Even the use of the so-called "pop-gun" should be surrounded by parental restrictions. I well recollect the case of a nine-year-old boy seen in consultation, who, tired of the sensation of expelling a cork from a small wooden pop-gun, loaded it with a 10-penny steel nail instead and as a result lost his eye. Incidentally a sympathetic ophthalmitis occurred and it was only by the most heroic and painstaking treatment that the boy was saved from absolute blindness.

Scissors in the hands of children constitute an instrument of danger as every experienced oculist knows. During a service of many years at the Illinois Eye and Ear Infirmary I had several cases under my care of severe injury of the eye resulting from the careless handling of scissors by children. Children will continue to delight in cutting out pictures, making paper dolls and the like, but their parents should be taught the dangers of sharp pointed scissors and urged to substitute the curved pointed variety. Oculists who well understand the dangers of air guns and scissors in children's hands, physicians generally, health officers and organizations formed for the prevention of blindness, should make it a point to give more general publicity to this danger. These injuries are absolutely unnecessary and can be entirely prevented with proper care. The same caution might also apply with equal force to the employment of pocket knives, forks and other sharp pointed instruments by children.

I have had a few cases of ocular injury by hat pins worn in such a way as to protrude from the brim of the hat and the point enter the eye of the innocent bystander in crowded places. It is hoped that the present scarcity of steel will prevent manufacturers from making these instruments so long as to be a menace to the eyes of the community when worn by thoughtless or careless maidens, old and young.

Injuries to the eye from broken spectacle lenses can be largely prevented by the wearing of rimmed glasses. While these injuries are exceedingly rare, yet they do occur. At the February meeting of the Chicago Ophthalmological Society I presented a case of this kind. In looking up the literature I find that in practically all of the cases reported the patients were wearing rimless glasses when injured.

Explosive golf ball injuries of the eye are not occurring with great frequency, at least in my experience. Several years ago I had two such cases under my care, one of which was of sufficient severity to necessitate enucleation. Some medical organizations, including the Chicago Ophthalmological Society, at that time adopted resolutions protesting against the manufacture of the so-called liquid core golf ball, but whether the manufacturers of the particular kind of ball responsible for the cases of injury have altered the process of manufacture to make them now

safe or whether the inquisitiveness of present-day youth has deteriorated, I am unable to conjecture. Suffice it to say, these injuries are fortunately becoming very rare.

Preventable eye injuries of an industrial nature have received much consideration of recent years and, as a result, the number of cases of blindness resulting from the so-called dangerous trades is diminishing. And yet industrial eye injuries still occur on a rather large scale in the aggregate. The last annual report of the National Committee for the Prevention of Blindness states that in Pennsylvania during the year 1916 there were 251,438 accidents reported. Of this number 20,665 were eye accidents. The total number of eyes lost was 332, and the total amount of compensation paid or payable for the loss of eyes or injuries to the eyes was \$268,889. Just how many of these accidents could have been prevented is, of course, difficult to say. With the best of prophylactic measures some industrial accidents will, of course, occur. To illustrate, however, what can be done along the line of industrial eye accident prevention, it may be pertinent to mention that one large steel company has reduced the number of eye accidents in its plants 75 per cent in two years by the use of protective goggles.

Many of the industrial eye accidents occur in the iron and steel industries, in connection with the butchering and packing business and in the building trades. Agricultural and mining pursuits also claim a fair proportion of accidents.

The wearing of protective goggles will largely reduce the number of accidents, as has been shown in the instance cited above. Employers as a rule have been generous in furnishing their employes with these protectors, but much trouble has been experienced in inducing the men to wear them. There are perhaps two reasons why this is so. In the one instance, the goggles have been uncomfortable to wear, not fitting the face and the other, objection is made that the glass in the frames soon becomes scratched, pitted and obscured. These objections can almost entirely be overcome by a little attention in providing comfortable frames and by the occasional renewal of the lenses. Care should also be taken to see that there is a free play of air so that moisture does not condense on the lenses. Where acute vision is not essentially required, gauze

screen protectors may be employed. The mesh of these protectors should be at least 32 to the inch. The employer who is the most successful in inducing and requiring his employes to wear protective goggles while at their work will have the smallest number of accidents in his plant.

Some eye accidents result from the chipping of fragments of steel from tools. In a fair proportion of cases, the tool is made from an inferior quality of steel; those that are most apt to readily chip are made from a low carbon variety. By the use of tools of the best quality of steel and an occasional inspection of them to see that they are in good repair, many accidents of this nature can be avoided.

Considerable progress has been made in the prevention of eye injuries by the use of the pneumatic fan, primarily intended to prevent the inhalation of dust from grinding wheels by workmen. By drawing into it particles of stone and metal which might otherwise strike the eye, the fan has accomplished some gratifying results in affording protection to the eyes.

Many plant foremen have reduced the number of eye injuries by arranging the workmen in such a way as to prevent chipping against one another or other employes whose duties require them to pass by. Chipping against walls or the installation of canvas screens between workmen have minimized the number of accidents. The workmen should not be placed so near a wall that the chips strike the wall and glance back. This can be avoided by maintaining a position a little distance from the wall.

With every care and protection possible everyone knows that there are some unavoidable accidents which will involve the eye, but that much can be done in the way of prevention is admitted by all.

In this brief paper I have endeavored to call attention to some of the injuries that can be prevented and to offer some suggestions for their prevention. A close co-operation between employers of labor, the employes, government agencies and the medical profession will assist in this movement so fraught with economy and genuine humanity. Further extension of the educational propaganda making prominent the importance of ocular protection and the seriousness of even slight injuries of the eye when infected

will do much to minimize the number of ocular injuries.

DISCUSSION

(Abstract)

DR. EDMONDSON (Mt. Vernon) noted the many eye accidents that occur in the coal mines of Southern Illinois which are treated by local physician at the place of accident two or three days or a week later coming for consultation with slight corneal ulcers which produce blindness because of neglect or poor treatment. He suggested that the Ophthalmological Section should find some means to firmly impress upon surgeons doing work for organizations of this kind to give first aid and have the case sent to a skilled oculist.

A year or two ago he gave some lectures for the Committee on Conservation of Vision of the A. M. A. in Southern Illinois, and I took occasion, with some lantern slides, to impress this fact upon the communities.

DR. H. H. BROWN (Chicago) advocated instruction on the prevention of eye injuries and eye sicknesses of various kinds by a proper propaganda in the school system.

If the school physician or teacher were properly instructed to acquaint the little child in the school with the nature and the necessary care of an eye, the child would lose its terror and develop greater individual protection to itself and to others suffering from slight injuries.

Large organization and business houses should be instructed, if not by law, with sufficient emphasis otherwise, that they hold a responsible position toward the welfare of the workman's eye.

He believes the great hazards coming to the human eye, the large per cent. of injuries and destructions resulting, as recorded, grow less and less all the time; but they would be infinitely diminished if a more perfect system were inaugurated first in the schoolroom and, secondly, in the workshop.

DR. ASAY said that one of his boys, at the age of about ten years, was shot with an air rifle, a BB bullet entering the region of the eyeball and lodging under the skin of the brow, for about two years and a half, when he extracted it. This boy claimed that he had had no accident at all apparently knew nothing about the circumstances of the case.

DR. T. WHITEFIELD SMITH (Bloomington) noted the importance of caring for the trivial things which, if not properly taken care of, may amount to a good deal. As, for example, a core seen in consultation: History of lesion which became infected; patient developed a meningitis with delirium and died.

THE CHAIRMAN: It seems to me that every toy that has come into my home recently has a sharp edge on it, and we certainly ought to get after these toy manufacturers.

Another matter I want to speak of is educating the general practitioner. I live in a town where we have a great many cases on account of eye injury, and we don't see these injuries for about a week after they

occur. All the time is lost in which something might have been done, and I think we should impress upon the men of the profession the necessity of early attention to eye injuries.

THE TREATMENT OF INTRANASAL AND ACCESSORY SINUS DISEASES*

OTTO J. STEIN, M. D.,

CHICAGO.

In order to attain the maximum results from any form of local treatment consideration should always be given to the general physical condition and environment of the patient. Occupation as well as habits and the conditions under which these take place are big factors in the production and the cause of the continuation of nasal symptoms. These must be recognized and corrected. Such symptoms as hyperacidity, acidosis, indican excess, constipation, diarrhea, foul breath, eructations, glycosuria, albumen, anemia, chlorosis, jaundice, menstrual disorders, persistent fevers, intermittent pains and many others must be reckoned with as helping to point out the way to relieve the nasal manifestations. The dyspnea present in polyp and sinus cases is also complained of in renal and cardiac diseases. I have repeatedly seen nasal symptoms of long standing disappear after recognizing the presence of diseased tonsils and removing them. Also after correcting some existing stomach or intestinal abnormality. We all are fully informed with the knowledge that systemic diseases like typhoid, syphilis and tuberculosis give rise to nasal symptoms, but still some of us are apt to overlook this fact and neglect to treat the case with this in view.

The limited time available for the presentation of this subject will necessitate my centering all further arguments on the local treatment. Whatever form of local treatment is employed it should place the nose and its accessories in as nearly a normally ideal condition as possible. This appertains both to structural relationship and integrity of soft tissue. Such a nose I look upon as having a relatively straight and thin septum, free from ridges and spurs that occlude and produce pressure; turbinates hanging free, that is to say not in contact with the septum or the outer wall of nasal cavity or the neighboring turbinates, also not enlarged, obstructing or dis-

*Read at the 68th Annual Meeting of the Illinois State Medical Society, at Springfield, May 22, 1918.

eased; ostei unobstructed; sinuses clean and clear, and a soft tissue over all that contains the requisite kind of nerves, blood vessels and lymph system to carry on its physiological requirements. This is often possible to do and at time impossible.

It is comparatively easy for some operators to remove a part or even all of the interior of a nose but a difficult matter to do so and leave it in a condition of physiological effectiveness. The healed areas seldom offer a surface satisfactory to these requirements.

Much has been written and said about the "indications" for operative interference, and every degree of obstruction, redundancy and irregularity as well as every variety of pathology have come up for "honorable mention" and "among those present." Many an operator has in mind only the "drainage and ventilation" idea to the exclusion of a normal lining membrane and by his operative propensities substitutes new symptoms for the ones complained of first. Whereas the patient before his operations (and it is the plural in many cases) complain of pain, nasal obstruction or hypersecretion, he now has excessively dry nostrils, large slugs, fetor, epistaxis, anosmia, pharyngitis sicca, cough, aphonia, impaired speech and hearing. The pathology present before such an operation in an exceptional case may warrant even such results, but there is no argument that will satisfactorily excuse the occasion of such a train of symptoms when other methods could have been instituted with all reasonable relief.

Among such other methods I place the suction treatment in the foreground. By its aid one can successfully drain out secretions from the sinus and eustachian tube creating a drainage and ventilation that will relieve pain and retention and thereby prevent complications arising, and at times obviating the necessity for operation. I use this form of treatment very much and believe it is based upon more rational principles than that of probing and irrigating. It is my belief that the often repeated irrigations of nasal sinus as well as the ear is fraught with great injury. From such use infected material may be forced into neighboring parts or the membrane become devitalized or exuberant granulations form. It is entirely correct to enlarge the ostium or make a counter opening when necessary to

allow heavy inspissated secretions or masses of cholesteatoma, polypi, etc., to escape, but once thoroughly rid of these irrigations may be dispensed with and a suction procedure employed to cleanse the surface membrane for the reception of the medicament selected for topical application.

When spray or irrigation fluids are used they should be mildly alkaline and used warm, avoiding all liquid that causes pain or irritation, like smarting, sneezing, lacrymation and a feeling of tension across the bridge of the nose and brow; with the exception where a highly stimulating effect is desired as in the treatment of atrophic rhinitis. My choice for many years has been a solution containing sodium bicarbonate and boric acid, two and one-half grains of each in glycerine, twenty drops, and water, one ounce. The neglect to utilize the possibilities afforded by the lymphatics as internal drains is to deprive your patient of a very valuable aid in therapeutics. A gentle and systematic massage of the soft tissues will accomplish more than many a surgical procedure, as is well testified to in that type of nasopharyngeal engorgement that contributes to middle ear changes. This manner of treatment is also of considerable value in asthma. Lack of time prohibits but the mere mentioning of the vaccines. Personally I now use them seldom.

In all operations within the nose greater respect should be shown the mucous membrane than is practiced by some operators. Elevation of membrane with removal of diseased or obstructing bone beneath, should be the rule and not an exception. A more general conservation of the soft parts will lead to better ultimate results. No one any more removes a ridge from the septum without elevating and preserving its overlying membrane. Ethmoid cells can be entered and cleaned out without removing the middle turbinate. The sphenoid can be entered in the same way. The maxillary sinus can be widely and permanently exposed without subjecting the lower turbinate to an excision.

Because the meati anterior and the choanæ posterior present a much less area as compared with all other parts between these two places the slightest obstruction here will greatly interfere with nasal function and hence it is at such places that the greatest relief is obtained by a minimum of correction.

Some of the untoward results following operations can be avoided by slight change in technique. For instance, in submucous septal work: an incision in the skin at the vestibule in place of the usual one at the muco-cutaneous margin, obviates the annoying scabbing often complained of. Also a less extensive removal of bone and cartilage in septal work does away with that very discomforting symptom of "flapping." I believe that one of the refining niceties that has evolved out of the original submucous operation is the removal of only that much bone and cartilage that will permit the replacement of the remainder in a perfectly perpendicular position with no obstruction whatsoever.

The entire removal of a lower turbinate body is seldom if ever permissible. The middle turbinate is far too often removed. Substitute methods for its removal may be satisfactorily found in infraction procedures and in the crushing of cystic turbinates and in the submucous excision. A great many operations performed upon turbinates could be obviated by "lining up the septum" in getting rid of the bends and irregularities. This can best be done by elevation of the soft tissue and excision of the greatly thickened and deflected portions. Just enough bone and cartilage should be removed to permit the remaining septum to take the proper perpendicular position and thereby providing for freedom of contact with the neighboring turbinates. An entire nostril full of mucous polypi can be made to disappear by simply irrigating and ventilating the neighboring sinuses where these are at fault. The electro cautery has a very limited value, I believe, and then only on the lower half of the inferior turbinate. In septal ulceration causing epistaxis the submucous elevation is preferable. With the large quantity of radium now at our service there should not be the necessity for the extensive procedures formerly employed in the commonly called "inoperable cases."

Operation in acute nasal disorders should generally be discouraged. Fatalities have frequently occurred. Complications such as meningitis, brain abscess, otitis, mastoiditis, sinusitis, septicemia, pneumonia and erysipelas occur in the presence of acute nasal diseases when operated upon intranasally far oftener than when properly treated otherwise. After the acute symptoms subside operative measures if indicated may be un-

dertaken. I cannot agree at all in the advice given by some that in the presence of a meningitis of supposed or proved nasal origin a thorough exposure of the affected meninges through the nose should be undertaken surgically when there exists an actively acute process intranasally, with the exception of opening and draining a presenting abscess. The supposed meningitis may only be a meningeal irritation or meningismus and under such circumstances surgery would be an unpardonable interference.

77 East Washington St.

DISCUSSION

(Abstract)

DR. BECK said he could second practically everything the essayist said, but that he would not expect polypoid degeneration of the cavity of the nose to disappear by irrigating or treating the sinuses. He finds that when once the membrane has undergone myxomatous degeneration, as a rule, it has to be attacked surgically and very thoroughly to prevent recurrences, and that very few cases under his observation do not show these recurrences.

Referring to the comparison made with the patient that came with three symptoms, and when he left the doctor, or sometime later, had eight or nine; he thought it wrong for an operator to shield himself and make it appear that he is not to blame, but that it is a progress of the disease. He believes the extensive traumatism sometimes given to the nasal cavity in trying to cure these symptoms of obstruction and suppuration, in order to obtain ventilation and drainage is decidedly wrong. It is argued that atrophic rhinitis is not common following these operations for suppuration. It may be true that ozena or atrophic rhinitis is not, but those symptoms that are mentioned he sees very often, and the more conservatively one acts toward the nose in these diseases, the better result one will have.

MIDDLE EAR INFECTIONS*

C. E. PRICE, M. D.

ROBINSON, ILL.

I realize that the text of middle ear infections is broad and includes many conditions, both, acute and chronic and in proclaiming the Gospel of this infection, one has to realize that there is a wider scope to be considered than is casually thought and the average general practitioner realizes. In this infection the God of Nature has made with us no covenant of definite signs and symptoms of either acute or chronic middle

*Read before the Section on Eye, Ear, Nose and Throat at the 68th Annual Meeting of the Illinois State Medical Society, at Springfield, May 22, 1918.

ear infections, nor has he promised protection and immunity to all of those who have an acute otitis media from becoming chronic or developing into a mastoid or yet a brain abscess. The regular described symptoms of fever, pain and swelling must not be waited for, because they do not always come at least in the opportune time for something to be done for the best interest of the patient.

It should always be borne in mind, in any acute nose or throat trouble, to think of the ears next which may soon be involved with often but very few and slight symptoms pointing to the ears.

Dench believes those cases with few symptoms are of the *Streptococcus capsulatus* infection and recommends an exploratory mastoid operation and states that he has always evacuated pus from the mastoid in cases with a history of from three to five weeks duration. So the general practitioner, "who generally sees the cases first," should appreciate the fact that it is not well to wait until definite symptoms develop in the mastoid cells to give positive external evidence, but in all cases with any ear symptoms that have continued for three weeks or more they should be X-rayed and foci of suppuration within the mastoid cells will generally be located.

In this connection, of indefinite symptoms of middle ear infections, I wish to report a few cases I have seen within the last year. But will say that on account of the pathologist and roentgenologist of our firm and "the only one in the locality" being in France, that part of the technique in diagnosis has been greatly neglected. Within this week, first week in May, I have seen two high school boys with acute middle ear infection, that showed slight symptoms.

Case 1. V. L., aged 17 years, giving a history of cold in the head for three or four days, and feeling a chilly sensation evenings when getting home from school, was very much surprised when getting up one morning to find his pillow soiled with pus and first thought it came from his nose, as it had been to him the offending member. This would not have been so much out of the ordinary had this been an acute exacerbation of an old chronic otitis. The discharge ceased in a few days and the drum healed.

Case 2. George B., also a high school boy, aged 16 years, had severe pain in ear for 48 hours. No other symptoms except bulging of

drum, no fever or external tenderness. Drum was incised with a slight serous discharge for a few days and recovery was more rapid than the above case where drainage was left to nature.

These two cases mean nothing more than that from the slight symptoms presented they are very likely to be neglected and serious conditions arise.

Case 3. Another case of acute infection I saw with Dr. Rafferty the third day of attack, both ears involved, with high fever, severe pain and swelling in both external meati. This was a boy, aged 4 years, with trouble in ears following a slight sore throat. Boy was given ether and both ear drums incised, with a copious discharge from both ears, symptoms abated and it looked for several days as though trouble here was over, when the discharge stopped. Then after a few hours all symptoms developed again with a vengeance and mastoid involvement became evident, when the Doctor advised operation. I saw the case in the afternoon of the second day of the renewed attack, when all the symptoms of a mastoid abscess were very pronounced in both ears, and we advised immediate operation.

The mother asked me after a family conference if I would say the boy would lose his life if not operated on that evening and there would be no hopes if he waited till morning. When I told her I could not say that, they decided to wait till morning, when in the morning the ears were both discharging very freely, no pain, no fever, child wanting to play and went ahead and got well in a few days with no further trouble since.

This case shows that we may operate sometimes, when the case would get well without operation, but I do not believe this case is any excuse for not advising operation again in similar cases, not even in one with much less pronounced symptoms. I have seen cases in children similar to this one get well with simply a Buck's incision, but I do not believe this simple procedure is often safe, unless the ear symptoms have followed some severe sickness and the child is not in condition to warrant doing more.

Case 4. The following experience illustrates the danger. A fine little boy, following a Buck's incision, developed a brain abscess at the end of ten days after the incision when all seemed to be going well; suddenly at the breakfast table had

a convulsion. He was at once anesthetized and an extra-dural abscess drained, but convulsions continued for three days when the end came. Had the mastoid been opened at the first operation, this boy should have had a better chance for his life.

Case 5. A man, J. R. R., 42 years old, was brought to my office by Dr. B. L. Price on October 20, 1917, complaining of pain in side of head, which had lasted for two weeks; no fever, no swelling of external meatus, no tenderness behind or in front of auricle, slight tenderness on deep pressure under lobe of ears, no distinct bulging of drum. An elliptical incision was made in lower posterior portion of drum, no pus escaped, pain was not relieved until after twelve hours when there was a slight drainage lasting only for a few days. About two weeks after drainage ceased, there appeared on the temple, just above and in front of the auricle, an induration and tenderness of the scalp, which in a few days gave one the sense of fluctuation. An incision over this seeming fluctuation was made down to and through the periosteum. The periosteum seemed healthy, no pus was found; wound healed at once and this seemed to relieve the induration. And pain was relieved for a time, only to begin in about a week. Pain in this case was referred all of the time from the beginning of his illness, to the temporal region. Only a slight rise of temperature was found, 99 to 100 degrees, and then only three or four times during the course of the disease. This case was brought back to the hospital November 20, a month from the time I first saw him, when I advised an exploratory mastoid operation; the only symptom of mastoid involvement at the time was pain in the temporal region. The operation was done the next day, and as soon as the gimlet entered the mastoid antrum, pus escaped. I expected to find the diseased process extending up toward temple, but on the contrary the real destruction was toward the tip cells. The diseased tissue was cleaned out and the patient recovered nicely without any more pain.

Case 6. The next case I wish to mention is a young man of draft age, who had been working every day, was called before the Exemption Board and here found to have had a discharging ear for four weeks. Was referred to me by the Board. An examination showed all of the "ear marks"

of a very destructive mastoid abscess, as far as deformity of the auricle, redness and swelling was concerned; but no pain and no fever at examination or at any time since ear began discharging as far as he knew. He had been working every day, eating and sleeping well.

The next day the mastoid cells were opened and diseased tissue removed. Pus had burrowed under the periosteum up over the temporal bone. Recovery speedily followed. Just to look at this young man when he came in the hospital, one would wonder how such a condition could exist without pain and temperature.

The next two patients I will mention show the results of poor judgment and lack of doing a thorough operation, that is of eradicating, I suppose, all of the diseased condition at the time of operation.

Case 7. Mrs. B., aged 82 years, had a discharging ear for two weeks, when I first saw her. I watched her from day to day for another two weeks and tried everything I knew to relieve her condition, when one day I found some redness over the mastoid. I never found her with fever, she had no pain, the only symptoms were the discharging ear and a noise in the head and ear. She was able to come to my office for treatment, and went around at her usual vocation, so when the slight swelling and redness were found over the mastoid I told her we must not wait longer. She had an albuminuria, but while fairly preserved for a woman of her age, it was thought best not to give her a general anesthetic, so on the sixteenth day after I had seen her first and about thirty days from the beginning of her illness, she was taken to the operating room and, under novocain, the operation was begun: the mastoid cavity was entirely destroyed, the ridge of bone between this cavity and the external auditory canal was soft; also spongy bone along the upper border of mastoid antrum. I carried out the cleaning away of the diseased bone as far and as long as I felt justified, because the patient was becoming very much worried. However, I did feel that the most of the diseased process was very well removed. After about eighteen hours, patient rallied in good condition, and granulation tissue soon filled the most of the cavity nicely, but a discharging sinus remained and she still complained of noise in her ear and head, but never stopped going about as usual, coming to the office for

dressing. Early one morning about ten weeks after the operation she called to her daughter saying she had a severe pain in the side of her head. When I reached her bedside forty minutes later she was unconscious and died in forty-eight hours. I never saw a case of mastoid abscess in a patient of this age before and this is my only attempt to do a mastoid under local anesthesia.

Case 8. The last case I will ask your indulgence in is a girl, 15 years old, who was brought to the hospital July 15, 1917, for a mastoid operation. This was a typical mastoid abscess with pain, fever and external deformity. Patient was operated on and all diseased bone was thought to have been removed. Symptoms abated, and granulation went on nicely. I heard from her every few weeks, but a discharging sinus would not heal. November 15, patient had what her physician thought to be a la grippe condition and ear began draining through drum. November 29, the physician was called about noon and found her with a temperature of 104 degrees, pain, tenderness, redness and swelling over mastoid region. He immediately brought her in to the hospital and a second operation was done that evening, when an extra effort was made to remove all diseased bone. There was no distinct abscess pocket found, but the remaining part of the posterior portion of the external bony meatus was soft. A very thorough removal of every thing that looked suspicious was done.

Patient was put back to bed about 4 P. M. Temperature at 6 P. M. was 105.2 degrees, general condition good; temperature continued high throughout the night. About 3 A. M. next morning the nurse called me and said the inflammation was spreading and had extended beyond the dressing; that patient's fever was still high and complaining of a great deal of pain about ear. I verified all the nurse's statements and now recognized that we had an erysipelas infection and I was now also satisfied that the condition over the region of the mastoid and ear that caused our alarm before the operation was of this character. While erysipelas infections have a predilection for the skin, yet they may involve the middle ear.

I am very sure I would not have undertaken the operation had I recognized the character of the infection. However, a second operation would have been necessary some time soon. For-

tunately the wound and tympanic cavity, as far as able to determine, were not infected; granulation was not delayed and wound healed more rapidly than after first operation and this time finally closed. The erysipelas infection spread until the entire face and scalp had been involved.

I am sure that in acute ear infections, no difference how vague the symptoms, an early incision of the drum, under aseptic conditions, is advisable, and will save a lot of destruction that would otherwise occur. I am also sure that it is advisable to take a picture of the mastoid of any ear that has been draining for some weeks when your suspicions will generally be verified.

My plea in this effort is the early recognition of acute infections in both the tympanic cavity and mastoid.

DISCUSSION

DR. EDMONDSON emphasized the danger of procrastination in all acute mastoid conditions. In February a general practitioner asked him to look at the case of a young man with acute mastoiditis, following a ten-days infection of the middle ear. Although he advised that the operation be carried on immediately, the doctor in charge decided to defer it.

Recently he was informed that this young man died in St. Louis a few days before that time of an abscess of the brain on the left side in the parietal region; that after long delay, when the patient finally became delirious he was taken to St. Louis and operated on, first on the right side, though the neurologist told them that the abscess was on the left; that, finding no abscess there, the next day they opened the left side and drained the pus. The autopsy showed that this had been tracing around through a meningitis to a brain abscess, and no doubt was traceable back to the original otitis media.

DR. POLLOCK thought the paper shows the importance of an x-ray examination in acute conditions. There is no question but that seventy-five per cent. of the cases of acute otitis media have a mastoid involvement; there is at least a mastoid inflammation, and they mostly clear up by free draining.

Our method is as follows: When a patient is first brought, we will say, three or four days after the acute otitis has occurred, and there is a persistence of high temperature, we take an x-ray picture, unless there is something very urgent about doing an immediate mastoid operation. If the patient gets along nicely and the temperature subsides and there is free drainage we treat them with irrigations. If the patient doesn't get well in ten days or two weeks, we take another x-ray picture which shows us very clearly whether the mastoid is clearing up or whether it is progressing. If we find upon the second picture that there is a progression of the involvement, a breaking down of the cells, we immediately do a mastoid operation.

He quoted one of our prominent men who said at the A. M. A. meeting held in San Francisco, that three days after an otitis media, if the temperature has not subsided, he does a simple mastoid operation and has a hundred per cent recoveries. That probably is the truth, but then he does perhaps eighty-five per cent. of unnecessary operations.

Every case is a separate one; there is no law to be laid down in all cases.

Our method has been, in the acute cases, as soon as the middle ear has stopped draining, which usually is in two or three days, to inject the mastoid cavity with bismuth paste and inside of a week, the patient will have been cured, not in every case but in seventy-five per cent. of those cases we have our acute mastoids cured in a week to ten days.

DR. ADAMS (Jacksonville) noted the great variability in symptoms of mastoid patients. In one man fifty years of age, who had suffered for a week from ear-ache, a slight rise in temperature, with no evidence of the involvement of the mastoid, no swelling and no pain excepting directly in the ear and none on pressure over the antrum, an incision and drainage of the bulging tympanic membrane gave relief and the temperature returned to normal.

Two weeks later he came back with more pain, and there was still no tenderness on pressure over the antrum, no swelling and very little temperature. The Doctor recommended an operation because of the continued pain and discharge, found a very dense mastoid, the whole interior of the mastoid cavity broken down, and the lateral sinus exposed over a considerable area. He was amazed to see the amount of destruction in this case with the few symptoms which presented. The patient made an uneventful recovery.

In contrast with this case another man had a mastoid abscess which continued from January 1, till May 1, when he came to the conclusion that he would rather die than suffer the pain he was suffering, and consequently was ready to have a consultation.

There was a tremendous swelling both behind and in front of the ear; the whole side of the face swollen. The ear was standing out, and there had been some intermittent discharge from the ear. Operation released an immense amount of pus, at least a teacupful, from an incision over the mastoid, and there was half as much from the incision to relieve the tissues in front of the ear.

Of course, there was a fistula present, and this fistula was coming out under the tissues instead of going back, but while the mastoid was diseased, the bony tissues themselves were not particularly broken down, and were not nearly in as bad a condition as the first case mentioned.

DR. HOLLINGER admitted the indications for mastoid are very difficult and that therefore we have to study the indications in all details.

In doubtful cases he has insisted that the patient go to the hospital and be observed for several days, until all the conditions are found normal.

The x-ray is of paramount importance, too, and repeated pictures may be necessary. If the general

practitioner doesn't do things open and aboveboard, it may be our duty towards ourselves as well as towards the patient to knock such a man.

On the other hand, we must not be too radical. In a number of those cases where we take the indication for operation too easily and are too quickly ready to insist on operation, they go back to Christian Science and they are again counted up against us.

I thought two or three factors in middle ear inflammations should come to our notice; first, the classification as to age, in adults or in children. The symptoms of middle ear inflammation in children are different than in adults. Quite a number of middle ear infections in children, in infants, finally eventuate in mastoiditis that show purely abdominal symptoms, or symptoms that in no way point to the ear and are treated medically.

Another point is the question of the character of the bacteria in the discharge. The bacillus capsulatus, with its stringy pus, almost inevitably leads to a mastoiditis; pneumococci will give you a discharge which will run a week, stop for four or five days, and then suddenly flare up in a mastoiditis. Streptococci will cause great destruction. Diphtheria occasionally will give you mastoiditis.

DR. JOHN DEAL: I would like to ask if there is an indication for operation in a person who has had a discharge from the ear for, say, three weeks, with absolutely no temperature and with no tenderness on pressure over the antrum, but who complains of continuous pain for three weeks, pain such that a man could hardly sleep at all.

THE CHAIRMAN: It seems to me that this matter of mastoiditis is to the head what the appendix is to the abdomen. We don't just know what is going to happen. It is all covered up. We can use the x-ray and we can use our objective findings and we can use the subjective findings, and all that, but it all means that we have to be on the job to see our patients regularly, and the man who does see the patients should be the specialist, the man who is an ear man.

I see a great many cases of mastoiditis where they have been neglected, neglected in this way, that from the very start a paracentesis was not done. It is hard for the practitioner to get permission; maybe he doesn't ask for it. I think it is high time that the general practitioner should be educated in the matter of having a paracentesis done in these cases of mastoiditis. I am sure much conservation of hearing could be effected if that were done. We are thinking a great deal now of conservation of vision. We have the Illinois Society for the Prevention of Blindness, but nothing is said of what the destruction of hearing costs the community, and it costs a great deal.

DR. EDMONDSON: How would you go about educating a general practitioner in calling in a specialist immediately when he has a middle ear disease? In Egypt we can't seem to do anything along that line.

THE CHAIRMAN: By appearing before the parent and teacher organizations.

DR. PRICE: I thank the gentlemen very much for their interest in the paper. The question asked by Dr.

Deal, whether I would operate on a case with no other symptoms than pain—I reported a case in this paper in which the man had had no symptoms at all, practically, not even bulging of the drum, but with severe pain in the ear. The drum had been incised first to try to relieve the pain. There was a discharge for a few days, but the pain still continued. The pain became so intense that something had to be done and I advised an exploratory operation. As soon as the mastoid antrum was reached, the pus escaped. There was quite a bit of destruction.

I practiced medicine fifteen years as a general practitioner, and I know a great deal more about how easy it is for the general practitioner to slight these ear-aches and discharging ears than you men who have specialized all your lives. The general practitioner has a dozen and one cases on his hands all the time that are seriously sick. He is attending obstetrical cases, he has typhoid, he has pneumonia, he has everything else to think about, and these little acute ear cases that he sees he gets rid of just as quickly and as gracefully as he can. I have no fear of these acute cases in the middle ear when they get into the hands of a man who is doing that special work, but the thing that has impressed me particularly in the last year is the fact of these cases being neglected, and the fact that they are neglected as a rule by the general practitioner, simply because he is a man who is too busy, and while he occasionally hears of a man dying of a mastoid and brain abscess, yet he knows that a great many ear troubles get well without going that far, and he hopes that this one will.

A CASE OF MULTIPLE SCLEROSIS WITH EYE FINDINGS.*

E. R. CROSSLEY, B. S., M. D.

Assistant Surgeon, Illinois Charitable Eye and Ear Infirmary, CHICAGO.

History of Case: Mr. C. W. S., aged 39 years. Father and mother living and in good health. Members of their families had no serious trouble nor paralysis. Two other children in family: one died at three months from unknown cause; the other at one year from pneumonia.

Personal History: Diseases of childhood and malaria. No diphtheria. On account of weakness was compelled to wear ankle braces for several years. About twelve years ago had some disturbance of vision but had no examination at that time. In 1908, on account of weakness and blurring of vision, he had his eyes examined by Dr. William A. Mann, who states the vision was 20/50 B. E. and he was unable to find any pathological condition of the fundus at that time, but suspected a retrobulbar neuritis.

He failed to get fields of vision as patient did not return. Vision was but slightly improved by glasses. In 1909, pre auricular glands and right submaxillary enlarged; also one on right shoulder and left hip. The last one broke and discharged and the others were removed. Was unable to obtain laboratory report of glands removed; clinical diagnosis was tuberculosis. In 1916 he had trouble with left hip joint, which was diagnosed as osteoarthritis and treated in a hospital by cast for three months. This resulted in slight shortening of the leg.

Present History: When patient came under observation Aug. 27, 1917, he complained of double vision, which, he stated, came on rather suddenly about one month previously lasting for one week, then disappearing to reappear after a week. Within the month following it had again disappeared and a left-sided facial paralysis had developed. About this time patient noticed a numbness of the fingers and weakness in left wrist and forearm, followed closely by a lack of strength in the left leg.

Examination: External appearance of eyes normal. Palpebral spaces equal.

Pupils: 3.5 mm. in diameter, circular, equal, symmetrical and regular margins. *Direct* and *Consensual Reactions* to light were good in B. E., as well as that to accommodation.

Motility: Of the right eye good in all directions excepting to the left. Of the left eye good in all directions.

Nystagmus: Quite marked and of the so-called "intentional character."

	20	20
Vision:	R. V., ———— 2;	L. V., ———— 1.
	80	50

Retinoscopy:

	20
R. E.:	+0.50+0.50×105=V——— 1
	50
	20
L. E.:	+0.25+0.50× 90=——— 1.
	40

Showing only slight improvement with lenses.

Ophthalmoscopic Examination: *Templar* side of both papillae very pale, while the nasal only slightly paler than normal. *Outline of Discs* well defined. Large vessels show slight contraction, arteries perhaps more than veins. No lesion could be seen in either macula.

*Read before the Section on Eye, Ear, Nose and Throat, at the 68th Annual Meeting of the Illinois State Medical Society at Springfield, May 22, 1918.

Fields of Vision: Quite marked contraction of fields in B. E. In right field, white, blue and red fall between 20° and 30° except on the temporal side which falls between 30° and 50° . In left field the same colors fall between 20° and 30° except in the lower portion where they are between 30° and 50° . There is no overlapping of the colors. In taking the fields, there was an uncertainty and inclination to mistake before naming the colors but not an absolute scotoma. He would call blue white, red brown, and green yellow before recognizing them correctly. The white spot of fixation at the cen-

The visual disturbance may vary much from the degree of atrophy revealed by the ophthalmoscopic examination, i. e., with little visible change in the disc there may be considerable visual disturbance and vice versa.

In Multiple Sclerosis many foci are effected indiscriminately throughout the brain and cord.

It is *not* a *systemic disease* and the atrophy of the optic nerve is seldom ever complete, usually affecting the temporal half of the disc or only a partial atrophy of the whole disc. A larger percentage of cases show the former.

The atrophic stage may remain relatively sta-

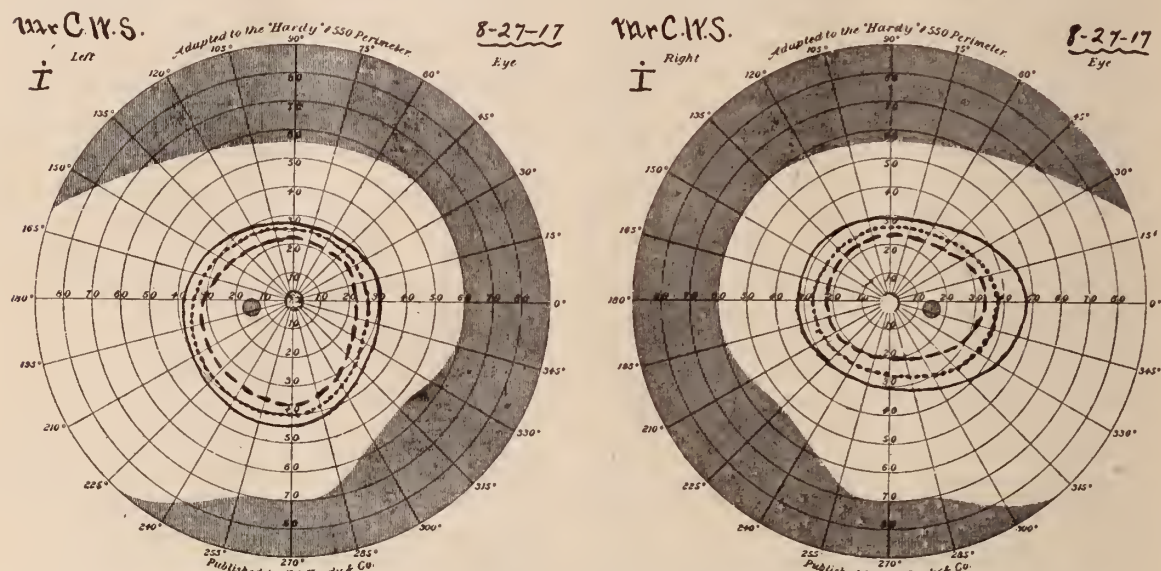


Chart 1. Fields of vision. Solid line—white. Dotted line—blue. Dashes—red.

ter of the perimeter seemed to vanish momentarily. The second set of fields taken seven months after the first do not vary in size and only slightly in form from the first.

Urine analysis negative. Blood pressure, 100. Blood Wassermann, negative, as also was the spinal fluid.

Various authorities concede that 50 per cent of the cases of multiple sclerosis show *visual disturbances* and *optic nerve changes*, and that they may precede other symptoms by several years.

This high percentage is exceeded only by tumors of the brain and equalled only by cerebral syphilis, and tubercular meningitis. When the frequency and constancy of the visual disturbances and optic nerve changes, together with paresis and other ocular symptoms, are taken into consideration, their diagnostic values are readily recognized.

tionary for a long period of time. The process seldom produces complete blindness and improvement may occur in many instances.

In locomotor ataxia, if the optic nerve is affected it is involved as a whole and the atrophy gradually becomes complete and the loss of vision total.

The onset of the disease may simulate an acute retrobulbar neuritis, but in a majority of cases the progress is gradual (50 per cent). The field of vision varies. Usually some concentric contraction, with central scotoma. A relative rather than complete scotoma occurs in about 50 per cent of the cases, according to Knapp.

Hirsch lays stress on the diagnostic importance of nystagmus, especially the so-called "Intentional" variety, in which the movements take place at the end of horizontal movements of the eyes.

Knapp states a one-sided incomplete ocular muscle paralysis, usually transient in character, is typical. Most frequent in the sixth nerve, branches of the third, and paralysis of the associated (convergence and divergence) ocular movement have been reported. He also states there are no pupillary disturbances.

SUMMARY

From an ocular point of view the case history shows the following points for the diagnosis:

1. The transient disturbance 12 years ago and partial loss of vision in 1908, with no visible changes in the fundus.

recognizes in multiple sclerosis are the scanning speech, the nystagmus and the intention tremor. The nystagmus is present in this case, but not to a very marked degree; the intention tremor is not there, and scanning speech also is absent.

However, the symptoms of multiple sclerosis can be so varied that one would not say that because two of these common symptoms are absent that the case is not one of multiple sclerosis. Every neurologist knows that there are cases coming under this diagnosis that have been kept under observation for several years before a diagnosis was finally made.

An interesting feature about this case is the occurrence ten years ago, about the same time that his eyesight began to fail, of some disease which involved

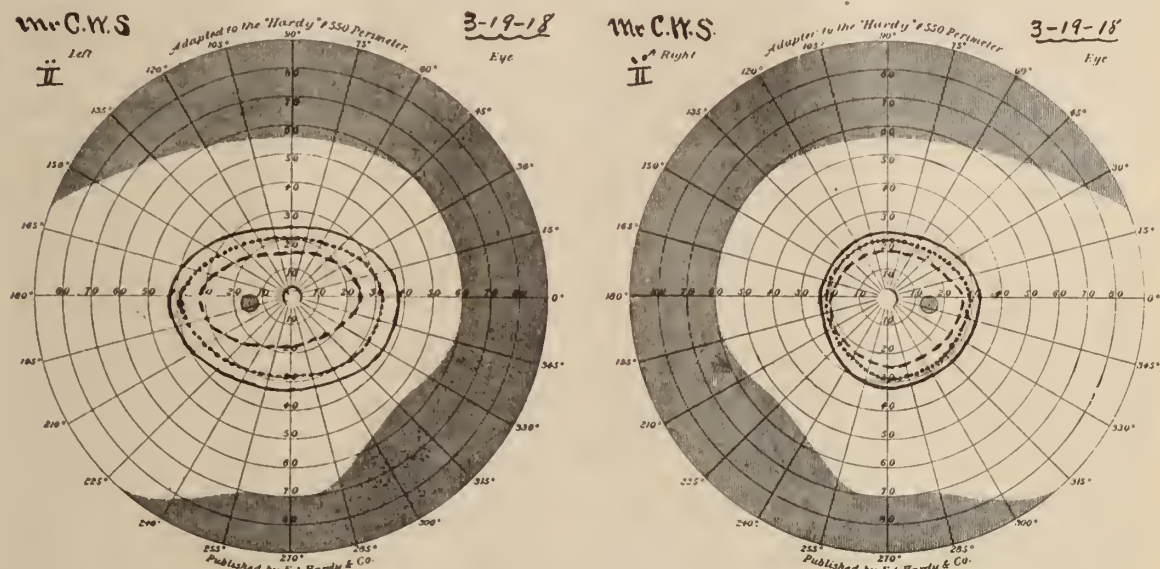


Chart 2. Fields of vision. Solid line—white. Dotted line—blue. Dashes—red.

2. At the present time no further progress of the process in a period of ten years, as shown by the vision, which is approximately the same as at the time of examination in 1908.

3. Atrophy of temporal side of disc showing the involvement of the papillo macular fibers principally, and not the optic nerve as a whole.

4. *The relative scotoma.*

5. *The pupils*—size, direct and consensual reaction to light and accommodation, normal.

6. The "Intentional" nystagmus, at the end of horizontal movements of the eyes.

7. The transient, one-sided, incomplete paralysis of the right internal rectus muscle.

DISCUSSION

(Abstract)

DR. HIRAM J. SMITH stated that he had examined Dr. Crossley's patient recently and considered the diagnosis probably correct.

The three cardinal symptoms that one usually

his hipjoint and which caused glandular enlargements about the hip and shoulder. Was this tuberculosis, or was it some of these other infections that we have been hearing about? And if it was an infection, either tuberculous or otherwise, was there any relation between that and the multiple sclerosis?

Another feature is the early appearance of eye changes in this case. Who would have thought that this patient was coming down with multiple sclerosis ten years ago when he had twenty-fiftieths vision? We find that these cases that begin with optic atrophy early run a slow, chronic course without very severe symptoms. He has had the disease for ten years. He has only moderate ataxia. He has had no apoplectic seizures, his speech is hardly involved at all, and, of course, he has only a partial optic atrophy. The differential diagnosis may be of some practical importance to you because the most common form of optic atrophy that you gentlemen see associated with brain disease is tabetic. It may be well to determine the difference between a case of beginning tabes and a beginning multiple sclerosis. He had seen tabes as early as twenty years and younger. The atrophy will be complete in

tabes usually, and it will not be complete in multiple sclerosis, so there is a real reason for making a differential diagnosis. You tell your multiple sclerosis patient he is going to become blind and he doesn't; he has the laugh on you. You tell your tabes he will probably not become blind, and the laugh is the other way. It would be pretty hard for us to differentiate, but one should make a pretty guarded prognosis in an optic atrophy associated with a cerebral disease.

DR. FAITH: There is one thing I would like to mention. I happened to see one of these cases a number of years ago that had simply retrobulbar neuritis with a central scotoma. It was afterwards diagnosed by a neurologist as being a multiple sclerosis. I remember then in looking up the subject that this point was brought out that Dr. Crossley didn't make, that during the early stages of the disease, when these transient paralyses come on and disappear, there is a stage that some have termed a hysterical stage. Because of the fact that these paralyses do appear and disappear, the physician is prone to discredit the patient's statement about having had a paralysis. When a patient says that one leg was weak for a time and he couldn't use it, they pay no attention to that, and it is credited to hysteria. So that I think sometimes we are inclined to overlook the real importance of these symptoms.

DR. H. H. BROWN: Just one point in emphasis of what Dr. Smith says. It is conceded that the concentric contraction of the field is quite a clear diagnostic evidence differentiating tabes from multiple sclerosis. I don't believe that we can be too cautious in our opinion with this class of cases.

I have in mind a patient in a very responsible position in life who consulted me about fifteen months ago, who, after very careful analysis, I pronounced a tabetic condition. I was forced, by virtue of the importance of the individual case, to say that the man in all probability would be blind, of course not limiting from the period of time.

From my findings and from all of those things which experience had taught me, as well as the rules ordinarily observed, I urged upon this individual a consultation, one of the things that I am especially prone to do, because I am a firm believer in consultation. But this was ignored.

Later the wife came to me and said that she wished I would tell her who, in my opinion, was the best nerve specialist in Chicago. I gave her the name of three men. She selected her neurologist to consult. The neurologist, after two or three careful examination of the patient, pronounced it multiple sclerosis. He conferred with me and said: "I don't believe that fellow will lose his vision. If he does at all, it will be very slow and possibly cover a number of years." I said to him, "Do you say that to please the patient, or are you personally convinced of it?" He said, "No, I am candid in it. I think that it is positively a case of multiple sclerosis." Today the man is practically blind, with the usual physical findings. So I think we cannot be too careful in passing judgment on these

cases in which there is a question as to whether it is tabetic or multiple sclerosis.

LIGATURE OF THE VESSELS TO ARREST HEMORRHAGE AFTER TONSILLECTOMY

HENRY R. BOETTCHER, M. D.,

CHICAGO.

To anyone who takes the trouble of making even a cursory perusal of the literature of recent years on tonsillectomy it will become at once apparent that hemorrhage, especially primary hemorrhage, is one of the greatest, if not the greatest complication of the operation. There are, of course, some operators who make light of hemorrhage and who claim that their patients never bleed seriously. To these I offer my congratulations; but I have my doubts, as their experience is contrary to the great mass of recorded reliable experiences even in large clinics where there can be no question as to technic, and the conditions of operation. I do not, of course, refer to hemophiliacs, but to the average patient whom we have to deal with daily; and I think I may safely say that in the average case there is a loss ordinarily of one or two ounces of blood, while a severe hemorrhage is not exceptional unless checked by a proper procedure. I will even go farther and say that there is scarcely a large city that had not one or more deaths from tonsillar hemorrhage which might have been avoided. Such deaths have been ascribed to the anesthetic or some other cause rather than to the true reason by faulty technic. Thus Smith¹ reporting on 54 very severe hemorrhages after the tonsillar operation found that the tonsillotome was used in 34. Similarly Cohen² found that this instrument was used in 7 out of 10 fatal cases.

Although menacing hemorrhage is not frequent, yet it cannot be ignored. In 1890 Wright³ collected only 31 cases in 25 years. Damianos and Hermann⁴ collected 150 cases. Sewell⁵ in 1911 found records of 19 fatal tonsillar hemorrhages in the literature.

I think that these statistics are far below the truth and that serious hemorrhages occur more frequently than is reported.

BLOOD SUPPLY OF THE TONSILS

The tonsillar region is very vascular which accounts for the frequency and ease of hemorrhage.

Ordinarily there are several arteries involved in the blood supply of this region. There are the tonsillar and palatine branches of the facial, the descending palatine branches of the internal maxillary, the dorsalis linguæ, and the ascending paryngeal.

The internal carotid has been assigned as the origin of hemorrhage by Chassaignac and others, but then the stylo-glossal and stylo-pharyngeal muscles form a diaphragm between the tonsillar and carotid regions and this makes it very improbable that traction about the tonsil should cause a carotid hemorrhage. The external carotid through its branches is more justly looked to as the source. Either the descending palatine or the ascending branches may give rise to copious hemorrhage during a tonsillectomy. The ascending palatine branch of the facial and the descending palatine branch of the internal maxillary anastomose and pass downwards between the capsule and the muscular aponeurosis before penetrating the capsule to reach the tonsils.

The tonsillar veins form a plexus in the walls of the sinus, and hemorrhage from this source proceeds usually from the lower pole.

METHODS OF CHECKING HEMORRHAGE

Several months are employed to obviate or arrest hemorrhage. They may conveniently be classed as under:

1. Chemical, thermic, and other non-operative expedients.
2. Compression of tonsillar region.
3. Compression or ligation of carotids.
4. Torsion or transfixion of the bleeding points.
5. Ligation of tonsillar vessels.

In a great many operations and for a large number of operators, the first or second methods, either alone or combined, will suffice. Dawbarn⁶ in 1892 appears to have been the first in this country to surround the bleeding surface with a strong ligature and compress the tonsillar stump. Suturing of the pillars is the most approved present-day method of compression. It is stated to have been originated by Baum, but Hermann⁷ says that the practice was in vogue in Cologne before Baum adopted it. Lefferts⁸, Clarke⁹, Fitzpatrick¹⁰, Butler¹¹, Lewis Imperatori¹² and others have used various methods of torsion and transfixion with more or less satisfactory results. Con-

stantin in 1906 described a method used by Escat since 1902 in which a laryngeal tube was inserted and surrounded by a hemostatic tamponade.

Hill and Elphich¹³ have made a modification in the guillotine incorporating a blunt crushing blade as well as the cutting blade, which they claim effects hemostatic enucleation. Meyer¹⁴ strongly advocates compression of the external carotid. He suggests that it is impossible to ligature in the case of such small arteries as are met with in this region. Jackson¹⁵ has several times ligated the external carotid for severe tonsillar hemorrhage.

The variety of these procedures is perhaps the best proof that none of them is sufficiently satisfactory and point to the necessity of a standardized method of performing the operation which shall comply with the strict rules of surgery and offer the minimum risk to the patient. This standardized method I claim is best fulfilled by vascular ligature. It is the only method which is strictly scientific and surgical in the technic of tonsillectomy which on account of the complications which may ensue and often do occur should not be regarded as a trivial operation, but one that calls for the best surgical procedure. Savage,¹⁶ of Baltimore, where ligation of the vessels has been systematically practiced for several years since its introduction by Cohen, says: "There is no excuse for omitting ligation on account of imaginary difficulty, and resorting to suture of the pillars or using the clumsy unscientific Miculicz instrument, or merely pressure by gauze sponges until the hemorrhage has apparently ceased to recur after the patient has left the operating table, and then call it, improperly, secondary hemorrhage." With this remark I am heartily in accord, for, as Savage further says, even if there are no spurting vessels, yet reduction of the amount of blood lost in every tonsillectomy, viz., from one to two ounces, is itself an indication for surgical ligature as such a loss is very detrimental to a child.

LIGATURE OF THE TONSILLAR VESSELS

Cohen,² of Baltimore, appears to have been the first to systematically employ ligature of the tonsillar vessels in tonsillectomy. He reported his method in 1909. After excising the tonsil any spurting vessel found is caught by a forceps and ligatured. Sometimes it is necessary to evert the supratonsillar fossa to discover bleeding points.

Oohen says that while many assert that ligation of the vessels in this region is impossible he has been able to perform it with ease in most cases. Ligation of the vessels has been practiced by Savage, Imperatori, Jervoy, Moore and many others. It has been adopted in many places as a matter of routine. Crowe, Watkins and Rothholz in a recent report state that ligation of the bleeding points is always done in the Johns Hopkins Hospital.

But, generally speaking, the bulk of the profession have not yet recognized and adopted it as the best procedure.

To those who have adopted or wish to adopt ligation of the vessels in tonsillectomy I wish to bring to notice this instrument which I term a ligation knotter and which I have now used for some past years in every case. It renders the knotting of ligatures easy in places not easily reached by the operators' fingers, especially in the tonsillar fossa. The results are positive, and so much safer and comfortable for the patient that I am quite convinced that ligation should be done in every case where there is bleeding and thereby putting this operation in a class with all other careful work in surgery. My personal opinion is that the greatest danger to the patient, even when done by a skilled operator, is hemorrhage. This gave me more concern than anything else until three years ago, when I began to systematically take up each bleeding point and ligature it with catgut.

To me tonsillectomy is never an office operation and should always be done under a general anesthetic and in a hospital. The patient who has his tonsils removed under a general anesthetic is less shocked, feels more kindly toward the operator after the operation and suffers no pain.

This makes the ligation of the bleeding vessels much easier and with children is the only way.

METHOD OF USING THE LIGATION KNOTTER

The patient should be in the surgical stage of anesthesia. He is then placed on his right side, with sand bag under neck, an assistant holding him in this position. A mouth gag with an ether tube and retractor is introduced and made secure, the uvula is caught up by an uvula forceps which is held by an assistant, and who, on removal of the tonsil, retracts the anterior pillar. The operator then places a gauze sponge in the sinus and as he locates the bleeding vessels takes them up with a curved tonsillar forceps.

All breeders having been secured, the assistant withdraws the retractor and takes the uppermost forceps in his right hand, the operator takes a No. 1 plain sterile catgut ligature and ties a simple overhand knot over the handle of the forceps, bringing the ends down astride the handle and holding them between the first three fingers of the left hand. The ligation knotter is then hooked on to the right hand strand from the under side and by giving it one and a half turns the ligature is placed in the spiral or head of the knotter.

The knot is now pushed down the handle of the forcep and as it approaches the tip, the tip is slightly raised and turned towards the head of the knotter; the knot is now passed over the tip and made fast, the forceps removed and a second knot tied and run down in the same manner.

It is well to keep the left hand end of the ligature well under the handle of the forceps when making the knot fast, also to leave the ends of the knot fairly long, which keeps them from untying. After ligation the external wall of the sinus is again retracted and the sinus inspected.

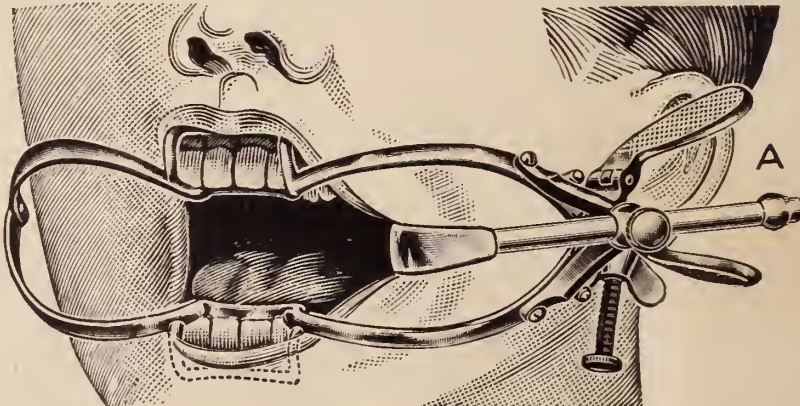


Fig. 1. Mouth gag with ether tube.

sponged out and if found dry the patient is sent to bed.

In delayed hemorrhage after the patient is off the table, and in secondary hemorrhage, I act similarly. If the bleeding is not very profuse I

16. Savage: Maryland Med. Jour., 1911, lviii, 27.
17. Escat: Presse med., 30 Aug., 1902.
18. Pollard: Brit. Med. Jour., 1892, i, 1186.
19. Barnes, H. A.: Hemorrhage after tonsillectomy, Boston M. & S. Jour., 1911, clxiv, 119.
20. Theisen: Ann. of otol., 1911, xx, 595.
21. Moore: Med. Record, N. Y., 1916, xc, 972.
22. Haymann: Archiv. f. Laryng., 1908, xxi, 15.
23. Jervy, J. W.: Southern Med. Jour., 1915, viii, 528.

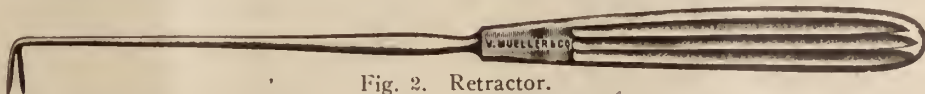


Fig. 2. Retractor.

instruct the nurse to fill a glass with crushed ice and on this to pour an ounce of peroxide of hydrogen; this is given to the patient as a gargle and in many cases is all that is needed.

Application of silver nitrate suffices where the bleeding is not too rapid.

Then we have the tonsil clamp of which there

24. Sawtell: Jour. Kansas Med. Soc., 1911, xi, 451.
25. Crowe, Watkins and Rothholz: Bull. of the Johns Hopkins Hospital, 1917, xxviii, 17.

DISCUSSION

(Abstract)

DR. EDGAR (Dixon), for two or three years past, after a tonsillectomy places a sponge in the fossa where the tonsil was to act as a compression for a half minute or a minute, and then using a pillar re-

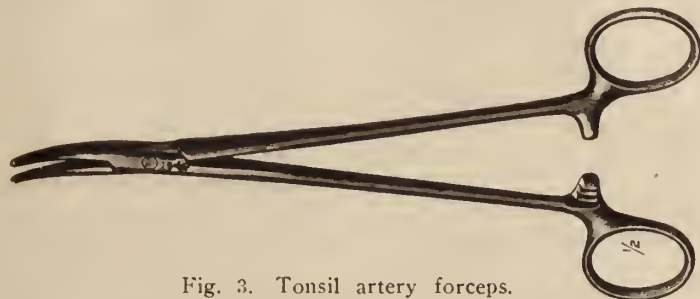


Fig. 3. Tonsil artery forceps.

are several, all depending upon pressure to control the hemorrhage, these should be left for an hour and then gradually loosened. Should bleeding appear the clamp can be tightened, care being taken to prevent pressure necrosis.

tractor, withdraws the sponge, inspects the fossa, and if there are any bleeding points, uses a method similar to Dr. Boettcher's to ligate the important vessels, one or two or more. He uses a forceps that has a notch in the end, which permits the ligature to be retained at the end of the forceps, so that it is easy to get it over



Fig. 4. Knot tier.

But should the patient be bleeding profusely, apply a pressure clamp and get the patient to the hospital, put him to sleep and ligate. This will give you the best result and is the safest in the end.

BIBLIOGRAPHY

1. Smith, H.: Laryngoscope, 1904, xv, 121.
2. Cohen, Lee: Post-operative Tonsillar Bleeding. Jour. A. M. A., 1909, liii, 698.
3. Wright: New York Med. Jour., Aug. 30, 1890.
5. Damianos and Hermann: Wien. klin. Wchn., No. 9, 1902.
6. Sewell: Med. Chron., July, 1911.
7. Dawbarn, R. H. M.: A new Method of Checking Bleeding after Tonsillectomy. Med. Record, N. Y., 1892, xli, 699.
8. Hermann: Archiv. f. Laryng., xii, 464.
9. Lefferts: Archiv. f. Laryng., 1882, iii, No. 1.
10. Clarke: New York Med. Jour., 1888, No. 1.
11. Fitzpatrick: Cincinnati-Lancet, July 8, 1891.
12. Butler: New York Med. J., Nov. 2, 1889.
13. Imperatori, C. I.: Med. Record, N. Y., 1910, lxxvii, 623.
14. Hill and Elphick: Jour. of Laryng., 1914, xxix, 545.
15. Meyer, A.: Les hemorrhagies apres Pamydalotomy. Arch. internat. de Laryng., 1919, xxix, 709.
16. Jackson: Ann. of Surg., 1907, xli, 821.

the end which is always the great difficulty with the ordinary forceps. However, he uses his finger in the upper or middle part of the tonsillar fossa in the inferior part of the fossa, behind the tongue, he frequently uses the Baettcher ligature tier. The use of a retractor will expose the artery whether it is in the posterior wall of the anterior pillar near the top, or down at the base near the tongue.

DR. TIVNEN has seen Dr. Boettcher use his knottier, and believes it is the best instrument we have had.

He emphasized the necessity of controlling bleeding of the first tonsil while the attack is being made on the second. Dr. Corwin, Dr. Peck and he have a hemostat—modification of Dr. Boettcher's—which he places in the tonsil fossa after the tonsil is removed. It doesn't obstruct the field of operation, and the pressure effect of it has a tendency to prevent the subsequent hemorrhage.

He believes the idea of tying off the vessels is the

correct principle and should take the place of all the clamps. Before inserting the curved needle to anchor the suture in the fossa, he draws out the floor of the fossa away from the underlying structure to avoid puncturing the large vessels.

DR. H. H. BROWN was especially interested to hear Dr. Boettcher's opinion upon the relative value and use of the anesthesia in the adults. He would ask Dr. Boettcher the question: What is his experience in the use of an anesthetic in adult tonsillectomies, or general vs. local anesthesia for adult tonsillectomies?

DR. POLLOCK (Chicago) stated that at his clinic practically all tonsillectomies were done under general anesthesia, unless there is some actual reason for not using it which seldom happens.

When the patient is anesthetized, two rubber catheters are placed in the nose, to control the immediate hemorrhage as soon as the tonsil is removed by having the anaesthetizer draw on the catheter. Then some gauze is placed in the fossa, the two pillars are grasped with forceps which are locked for thirty seconds, when the bleeding has practically stopped. If there is a spurter, with the same forceps we retract both the anterior and posterior pillar so as to give a good view of the fossa.

He has used Dr. Boettcher's knot-tier, but has never given it enough use to become actually proficient. He finds it much easier to take a small curved needle, pulling the forceps up, grasping underneath and tying off with the fingers. If you tie off without an anchorage, it slips. Up until about two years ago, his routine in every adult case, was to place gauze saturated with tincture of benzoin in the fossa and stitch the pillars over it. There was no objection to this except for the discomfort it caused the patient for the twenty-four hours it was left in. There was very little reaction, not much more than by simply placing in the original sponge to stop bleeding.

In the last year and a half, we have discontinued that and pick up the bleeding vessel, which under general anesthesia is very easy; in local, it is a different proposition. All of the bleedings that we have had, so-called secondary, three or four hours after the patient has been put to bed, when the effects of the cocaine have worn off, have been in local cases. In the seven or eight years now that we have been giving general anesthetic, we have never had a bad result from the anesthesia itself.

DR. J. SHELDON CLARK, CHAIRMAN: I believe in tonsillectomies we are too prone not to use surgical procedure the same as we would in other parts of the body. When a surgeon has hemorrhage in abdominal work, he simply provides a way to find that hemorrhage, and he puts on a forcep and checks it by ligature. I think in tonsillectomy a lot of trouble is encountered because when we operate upon our patients, we want to get them back to their rooms in five or ten minutes and have it said that we did the operation so quickly.

We should keep our patients in the operating room until we are fully satisfied that we can go to play golf,

or go off for a week and know that that patient won't be bleeding. In regard to this tonsillar hemorrhage question, I haven't had bleeding just lately, but I did a while ago buy Dr. Boettcher's instrument, and I propose to use it the next time occasion arises. Occasion has arisen within the past ten years when I would gladly have had such an instrument.

I have a needle forceps that I bought in Germany, and it has a male and a female end, carrying a ligature. After bringing the bleeding tissue down your ligature is made with one sweep of the forceps. Then you can tie that very nicely.

DR. BOETTCHER: I think Dr. Tivnen meant a tonsil clutch, not a tonsil forcep. This forcep that I am using is not mine, and I have forgotten the name of the man who devised it. There certainly can't be anything adverse to ligating a vessel from our standpoint any more than for the general surgeon to ligate.

The biggest trouble I find in the matter of assistance, is to get some one to give the anesthetic. To do that, I have a mouthpiece to which I have attached a tube. This tube is not original with me, but the attaching of the tube to the mouth-gag is, and it also make a lip retractor. An assistant with bellows keeps a continuous stream of anesthesia going into the patient's mouth. I used to do a great many cases under local anesthesia. This with children is impossible, and even adults suffer from shock under local anesthesia and it takes them a long while to recover. Now I have adopted the general altogether.

I did give at one time over at the Eye and Ear Infirmary the A. C. E. mixture, and we had so many cases that got on the borderline, with the new assistants, that I abandoned it altogether. I did lose one patient there from chloroform. Then we quit the A. C. E. and took up the continuous method with ether, and I have seen and operated on many people with very crippled hearts, and we never have had a bad result of any kind.

One assistant to give the anesthetic and one to hold the patient are really all you need. You can have the person that holds the patient do the pumping, and the anesthetizer can hold the forceps for you and do the retracting. When there are three around the head, it is one too many.

I use a very narrow tongue depressor, not over half an inch wide.

The less you have in the mouth, the more you can see and the easier it is to do your dissecting. Dr. Pollock speaks about the knot-slipping. I can tell the doctor what happened. The assistant didn't turn the point of the forcep up enough. If he will turn the point of the forcep up a little bit and doesn't pull too tightly on the catgut, he won't have any trouble. You want a catgut heavy enough, so that it will retain its own loop when you run it down, because you push that loop down, you can't pull it down. As you bring it down, if he elevates the tip of the forcep, it will drop right down over the tip.

I can tie two knots before any man can get his needle through, under ordinary conditions.

SPONTANEOUS PULSATING EXOPHTHALMOS*

G. W. Boot, M. D.

CHICAGO

This case, which I first presented to the Chicago Ophthalmological Society as a case of angioma of the orbit, is better described as a case of pulsating exophthalmos not due to trauma. Whether the symptoms were the result of an arteriovenous aneurism or to dilatation of angiomatous vessels within the orbit, I am unable to say.

Case. A. V., German; female, age 21. Housemaid. Single. Consulted me on account of redness and protrusion of right eye and swelling at the root of the nose. She had worn glasses for six years on account of headaches. Eight or nine months before consulting me she noticed that the right eye had become bloodshot and that the eye "swelled up" as she expressed it. There was no history of trauma, overstrain or sickness. The eye was not painful and vision with her old correction was 20/20. The right eye was more prominent than the left by at least 3 mm. The conjunctive was reddened opposite the inner and outer canthi. There was a soft swelling on the right side of the nose. A thrill was felt on palpating this swelling and a bruit was heard over the whole face. The accessory sinuses of the nose did not light up well on transillumination but stereoscopic x-ray pictures showed nothing abnormal in the sinuses. The nasal cavities were normal.

The fundus of the right eye was normal except for an unusual fulness of the veins. She had had a pulsating noise in her right ear for about two years. There were large tortuous veins running transversely across the right upper lid.

She was a well developed young woman and showed none of the stigmata of hereditary disease. She felt perfectly well in every way except for the symptoms mentioned.

She was kept under observation for several weeks and during this time the swelling on the right side of the root of the nose increased somewhat in size. Because of this increase in disfigurement I finally ligated the right common carotid on February 27, 1918, under ether anesthesia. The right side of the face became pale immediately and the veins felt less full. Most of the swelling beside the nose disappeared immediately also. The thrill disappeared and when the patient awoke she stated that the pulsating noise she had heard in the right ear for two years had disappeared. She was much nauseated from the ether and had some headache. After a few days in bed she sat up but was somewhat dizzy. She remained in the hospital seven or eight days and was discharged

in excellent condition with all signs of her previous disease absent. She went to a convalescent home for a month and then went to work. When seen a month after the operation the cure seemed to be perfect. She had normal vision in the right eye, the swelling at the side of the nose was absent and she considered herself perfectly well.

Of the cases of pulsating exophthalmos collected by de Schweinitz and Halloway in 1907 all but 22.7 per cent. were the result of trauma. The following spontaneous cases came to autopsy:

Karplus¹. Female. Aged 69, suddenly developed a sticking pain in the left side of the head and at the same time heard a noise in the left ear. Two days later she had a slight ptosis of the left eye and diplopia. The left globe was sensitive to pressure. Twenty days later she had ptosis, slight exophthalmos and a loud blowing systolic murmur heard over both sides of the head. There was paralysis of the abducens and of the external branches of the oculomotor. No other cranial nerves were involved. Arteriosclerosis was present. The left common carotid was tied and cut. The murmur, and exophthalmos disappeared and the paresis of the ocular muscles improved. Two days after operation she developed heart weakness and right sided hemiplegia with aphasia. She died of lobar pneumonia on the sixth day.

On postmortem a ruptured sacculated aneurism of the internal carotid 1 cm. long was found in the cavernous sinus. The basal vessels were sclerosed and the left hemisphere softened.

Debayle². Sex and age not given. While suffering from malaria had a vomiting attack following which the various signs of pulsating exophthalmos appeared. The internal carotid was ligated. Following this the symptoms gradually disappeared. One month later patient died from rupture of aneurism of the carotid near the aorta. Autopsy showed a communication between the internal carotid and the cavernous sinus.

Cantonnet and Cerise³. Female, Aged 80. Condition developed abruptly with slight pain and rapid diminution of vision, headache, vomiting and throbbing in the head. Exophthalmos and visible pulsation were present on the second day. There was a continuous bruit in the periorbital region. There was no surgical intervention. Patient died suddenly three weeks after the onset of the trouble. Postmortem here was found sclerosis of the circle of Willis. The internal carotid was dilated at its entrance to the sinus and there was rupture of the artery into the outer anterior part of the sinus.

Gruner⁴. Female. Aged 38. While vomiting during menstruation patient suddenly developed severe pain in the left side of the head and left sided pulsating exophthalmos. The left common carotid was tied four days later. Patient died five days after the operation. At the post mortem there was found marked blood infiltration of the cavernous sinus, but no rupture of the artery. No abnormalities were found in the orbit.

*Read before the Section on Eye, Ear, Nose and Throat, at the 68th Annual Meeting of the Illinois State Medical Society at Springfield, May 22, 1918.

In addition to these four cases Reclus⁵ has reported the case of a syphilitic female who had a rebellious headache for five years. In February, 1906, she developed a sudden fever and pain in the head followed by bulging of orbit near the nose and with a subjective noise like a locomotive blowing off steam. There were present on examination exophthalmos, edema, dilated veins, pulsation, thrill, bruit, glycosuria and albuminuria. The treatment included digital compression and injections of gelatinized serum. On account of the specific history she was given injections of gray oil. This was followed by the disappearance of the exophthalmos. The left common carotid was then ligated. Patient recovered but was blind in the left eye. Forty-four days after the operation she died of apoplexy. At the post mortem there was found arteriovenous aneurism on the left side with thrombosis of the cavernous sinus. There was a fresh rupture of the carotid into the sinus on the right side.

Van Duyse⁶. Male. Aged 22. Proptosis was of gradual development for three years before coming under observation. Treatment included compression of carotid, ligation of right common carotid three years after coming under observation and ligation of left common carotid sixteen months after ligation of right. Patient died one year after last ligation. Post-mortem showed cystic fibrosarcoma of ethmoidal origin.

Thus in the spontaneous cases of pulsating exophthalmos that came to postmortem four were found to have arteriovenous aneurism of internal carotid and cavernous sinus. In one case there was disease of the cavernous sinus without rupture being found, and in another fibrosarcoma of ethmoidal origin.

The ages given are 22, 33, 69 and 80.

Among the causes given for the occurrence of spontaneous pulsating exophthalmos are pregnancy, malaria and menstruation; vomiting, coughing, straining at stool and straining while washing windows; arteriosclerosis, epilepsy, pertussis, typhoid fever, intermittent fever, erysipelas, tumors and orbital defects.

In my case none of these causes of pulsating exophthalmos could be found. There was no history of disease, strain, accident or anything else to which it could be attributed. There is no suspicion of syphilis. Stereoscopic x-ray plates show nothing abnormal. No disease was to be found in the nose and she had no nasal symptoms.

In addition, no unfavorable symptoms followed ligation of the common carotid, and the patient appears to be perfectly cured.

122 S. Michigan Ave.

BIBLIOGRAPHY

1. Karplus: *Wien. Med. Woch.*, 1900, xiii, 357.
2. Debayle: *Annal d'Oculist*, cxxvi, *Jahresbericht f. Oph.*, 1901.

3. Cantonnet et Cerise: *Arch. d'Oph.*, 1907, xxvii, 34.
4. Gruner: *Jahresbericht f. Oph.*, 1901.
5. Reclus: *Gaz des Hopetaux*, 1908, 1001.
6. Van Duyse: *Arch d'Oph.*, 1904, xxiv, 288.

USE POTATOES TO SAVE WHEAT

"The potato has a place on our food list which no other vegetable occupies. It appears on the tables of countless families at least once a day, and often at all three meals, and is so much a part of our daily food that we miss it almost as much as we would bread if we have to go without it. Its popularity is based on more than accident or custom, for it is both palatable and wholesome and lends itself to a great many methods of preparation; in fact, there are almost endless good ways of serving it—baked, boiled, served with meats, in soups, in salads, and even in desserts. We are learning also to use the cooked potato in making bread and cake. That we can use potato partly to replace the flour in such mixtures is not surprising, for the food substance which potato supplies most abundantly is starch, and it is also chiefly because of the starch they contain that the world uses cereal grains as breadstuffs.

"It has become our especial duty to save wheat, and it has been found that mashed potatoes can be used to replace one-third to one-half the flour in many recipes. It has also been found that the addition of a small amount of mashed potatoes improves the texture of breads and cakes made wholly from the wheat substitutes."

The quotation above is taken from Circular No. 106 from the office of the secretary of agriculture, Washington, D. C. It contains recipes tested by the home conservation section of the U. S. Food Administration, and can be secured by writing to the secretary of agriculture.

Circular No. 117 gives recipes for the use of corn meal and flour to save wheat. Circular No. 118 is on the use of oats to save wheat and Circular No. 119 contains recipes for the use of rice flour to save wheat.

The world demand for American wheat will continue during and long after the war. It therefore behooves all of us to use substitutes when possible without any loss of energy or food value. By following the suggestions of these circulars, a great variety in diet can be secured, with its double appeal to the purse and palate.

THE CHILDREN OF AMERICA AND THE LIBERTY LOAN

Back of the trenches of France run our rear-line trenches of America. In them every one of us is a soldier on duty. The Liberty loan is a service in which every man, woman, and child may take part. Children may carry the creed of patriotism into their own homes. Because of this influence a child may help sell Liberty bonds. I hereby appoint very child of school age in the United States a soldier of the Liberty loan.—W. G. McAdoo.

ILLINOIS MEDICAL JOURNAL

Published monthly by The Illinois State Medical Society under the direction of the Publication Committee of the Council.

GENERAL OFFICERS, 1918-19

PRESIDENT.....E. W. FIEGENBAUM, Edwardsville
 PRESIDENT-ELECT.....J. W. VANDERSLICE, Chicago
 FIRST VICE-PRESIDENT.....H. C. BLANKMEYER, Springfield
 SECOND VICE-PRESIDENT.....CLARA SEIPPEL, Chicago
 TREASURER.....A. J. MARKLEY, Belvidere
 SECRETARY.....W. H. GILMORE, Mt. Vernon
 (Ex-officio Clerk of the Council)

THE COUNCIL

First District		Alternate
Councilor		
E. Windmueller, Woodstock	C. E. Crawford, Rockford	
Second District		
Edwin S. Gillespie, Wenona	J. H. Edgcomb, Ottawa	
Third District		
Clyde D. Pence, Chicago	S. J. McNeill, Chicago	
Fourth District		
T. W. Gillespie, Peoria	Coleman J. Eads, Oquawka	
Fifth District		
Charles S. Nelson, Springfield	F. C. Gale, Pekin	
Sixth District		
Henry P. Beirne, Quincy	L. O. Frech, White Hall	
Seventh District		
Chas. F. Burkhardt, Effingham	W. W. Murfin, Patoka	

Eighth District
 Cyrus E. Price, Robinson H. N. Rafferty, Robinson
 Ninth District
 Charles W. Lillie, E. St. Louis W. F. Grinstead, Cairo
Second Assistant Secretary

Clyde D. Pence, *Chairman*, 3338 Ogden Avenue
 Send original articles and all communications relating to advertisements and mailing list to Dr. Clyde D. Pence, Editor, 3338 Ogden Avenue.

Membership correspondence to Dr. W. H. Gilmore, Mt. Vernon, Ill.

Society proceedings and news items to Dr. Henry G. Ohls, *Managing Editor*, 927 Lawrence Avenue, Chicago.

Contributors will submit all copy for publication typewritten on standard size paper and double spaced. Copy not complying with this rule will be returned, if convenient.

MEDICO-LEGAL COMMITTEE

WILLIAM O. KROHN.....Chicago
 E. E. EDMONDSON.....Mt. Vernon
 D. R. MACMARTIN.....Chicago
 F. C. FISHER.....Bloomington
 C. B. KING, *Chairman*.....Chicago
 GEORGE STACY, *Secretary*.....Jacksonville

GENERAL COUNSEL

ROBERT J. FOLONIE.....39 S. La Salle Street, Chicago

State society will pay no bills for legal services except those contracted by the Committee. Notify the Chairman at once. Do not employ attorneys.

OCTOBER, 1918

Two Letters

The Kaiser's Letter

To Frau Meter who has lost
 Nine Sons in the present war.

"His Majesty the Kaiser hears that you have sacrificed nine sons in defense of the Fatherland in the present war. His Majesty is immensely gratified at the fact, and in recognition is pleased to send you his photograph, with frame and autograph signature."

Lincoln's Letter

To Mrs. Bixby who lost Five
 Sons in the war of the Rebellion.

"Dear Madam—I have been shown in the files of the War Department a statement of the Adjutant-General of Massachusetts that you are the mother of five sons who have died gloriously on the field of battle. I feel how weak and fruitless must be any words of mine which should attempt to beguile you from the grief of a loss so overwhelming. But I can not refrain from tendering to you the consolation that may be found in the thanks of the Republic they died to save. I pray that our Heavenly Father may assuage the anguish of your bereavement and leave you only the cherished memory of the loved and lost, and the solemn pride that must be yours to have laid so costlly a sacrifice upon the altar of freedom."

—ABRAHAM LINCOLN.

The Whole Situation in a Nutshell

Editorial

GOOD ROADS BILL

At the present time various civic bodies and state officials are, to say the least, enthusiastically boosting the good roads propaganda, hoping to get sixty millions of dollars for the building of good roads in Illinois. The object is worthy, and certainly every doctor would like to see good roads over the entire state. THE JOURNAL is not going to oppose the plan, but we do wish to call attention to two or three relative points.

Those loudest in the demand bring out the argument that there will be no increase of public taxation, but the sixty million dollars will be raised from automobile licenses. Sixty million dollars is a great deal of money, even in these days when people talk mostly of billions. A large sum of money will be needed for maintenance. The present license fees but little more than maintain the roads as they now are. Many people seem to think that the money will be raised with the present rate of license fees. Obviously this is impossible, and it is quite possible that the fees may be doubled or trebled.

This matter was presented at the Annual Meeting to the House of Delegates, which immediately and with little thought passed a favorable resolution. Doctors generally are not collecting the fees they have been accustomed to do, and they are also buying liberty bonds and thrift stamps.

We do not know what the license fee would probably be under such a procedure, but it is sure that the doctor is going to need about all the money he can get to keep going for the next few years. We think it would be an excellent plan for the state officials to state what license fee would obtain under the proposed plan.

HEALTH CONDITIONS AT THE CANTONMENTS

Illinois has reason to be thankful for the excellent showing made by Camp Grant in the annual review of health conditions made by the Surgeon General's office of the War Department on September 12th.

This statement of "disease conditions among troops in the United States for the year ending August 30th, 1918," verifies the uniformly fa-

vorable health conditions in the weekly reports from which this summary is compiled.

The annual death rate from disease averaged 6.37 per 1,000 for all troops in the United States, and 7.32 for all cantonments. The rate for Camp Grant was only 4.22.

Annual hospital admission rate for all troops in the United States for disease was 1332.4 per 1,000; for all cantonments the admission rate was 1382.9; for Camp Grant only 631.6.

Average non-effective rate on days of reports for all troops in the United States was 40.96; for cantonments this rate was 42.17; for Camp Grant only 21.13.

The pneumonia and scarlet fever admission rates at Camp Grant were above the average of all other departments, but the venereal admission rate was less than half that of the departments. Malaria admissions at Camp Grant were about one-fourth the average for all cantonments, and only about 2 per cent of the admission rate at Camp Beauregard, La.

The report of the Surgeon General is replete with medical and sociological data of fascinating interest, though it is condensed into four pages of tabulations; but to appreciate the data fully would require a comprehensive knowledge of social conditions throughout the country and the effects of race and color on the personnel of the troops—and no word on either subject appears in the report.

The deplorable epidemic of influenza began at several cantonments just as the annual report was issued. For the period Sept. 13 and Oct. 3, the U. S. Public Health Service reported 113,737 cases of influenza at the army camps with 8,575 cases of pneumonia, of which 2,479 died.

SELECTIVE SERVICE COMMITTEE, CHICAGO ASSOCIATION OF COMMERCE

The Chicago Association of Commerce has created a Selective Service Committee to assist its members and the District Boards in the difficult task of reviewing industrial deferment claims.

These committees will also lend their assistance to non-members who wish to avail themselves of this service.

The undersigned committee, to whom matters concerning Physicians, Dentists, Osteopaths, Optometrists, Hospitals, Sanitariums, X-Rays and

Pathological Laboratories may be referred, holds regular meetings daily at 5 P. M., at the office of the chairman, Dr. Martin M. Ritter, 1819 Marshall Field Annex, from whom blanks covering information may be obtained.

Should you have occasion to require the services of this committee, you may present your claim at the time and place above mentioned. Further information may be obtained by calling Central 2964.

Yours very truly,

DR. MARTIN M. RITTER, Chairman.

DR. CASSIUS C. ROGERS.

DR. NOBLE M. EBERHART.

DR. CHAS. H. DODGE.

DR. FRED W. GAGE.

EXAMINATIONS FOR THE MEDICAL CORPS, U. S. ARMY

The Secretary of War authorizes the following statement:

"Orders issued by the War Department on Aug. 8, suspending further volunteering from civil life, etc., do not apply to the enrollment of physicians in the Medical Corps of the Army. It is the desire of the War Department that the enrollment of physicians should continue as actively as before, so that the needs of the Army may be effectively met."

NEWTON D. BAKER,

Secretary of War.

The Surgeon General invites the members of the Illinois State Medical Society to appear before the Examining Board for recommendation for commissions in the Medical Corps of the Army.

Communicate with the undersigned for further information.

Major E. J. Doering, M. C.,

President Board of Examiners, U. S. Army,

81 East Madison St., Chicago.

THE GRIEVANCE COMMITTEE

On Tuesday evening, September 10th, the Grievance Committee, consisting of some forty men, met at the City Club to discuss matters of importance to the Society. They had as their guests Dr. Shepardson of the State Board of Registration, Mr. Conroy, an investigator for

the Board, and Mr. Folonie, attorney for the State Medical Society.

Dr. Glenn, the chairman of the committee, outlined the purposes of the Committee and the work which it had done during the past year. He indicated that he had been very busy on many matters of importance to the profession of which they were not as yet cognizant. During the winter it is hoped that Dr. Glenn and his committee will make a more extended report to the Society. He expressed the wish that members of the Society would not hesitate to send in complaints or points of grievance, and that they would let it be known amongst the lay people that such matters would be welcomed from them.

He then introduced Dr. Francis Shepardson, who gave us a very interesting talk on the work which the State Board of Registration was doing toward the cleaning up of the profession, both from quacks and from illegal or irregular practitioners. It was a surprise to the Committee to learn how much had been done, how many of these people have been stopped practicing, and how much information they were gathering which would help in future work. He made a plea for the registration of all doctors in the state, on the basis that it would be of great assistance to the Board in clearing up the irregulars. He could not understand why there should be any opposition to it. He could not see why the great and noble profession of medicine should not be safeguarded, just as much as any of the trades. He hoped that he would secure the backing of the profession in his endeavor to have this law passed.

Mr. Conroy, investigator for the Board, was next called upon, and admitted that he was very reluctant about telling of any of his methods of securing information. He hoped that although we had met him face to face, if he called upon us in our offices, we would not be reticent about giving information that he desired. It would seem that the Board had a very efficient investigator in the person of Mr. Conroy.

Mr. Folonie, when called upon, urged the members of the Grievance Committee to endeavor to get greater publicity for their committee, in order that the members of the profession would send their grievances. He urged very strongly that this committee would change its method of procedure in these cases and that it would engage a prosecutor to relieve it of part of its re-

sponsibility. He believed that a committee would not do its best work if it acted as attorney, judge, and jury. He very kindly offered his services if the Committee felt they could use them.

The subject was then thrown open for discussion and many of those present took part. Dr. Pusey, Dr. MacKechnie, Dr. Schaeffer, Dr. Stuart and others took an active part, and drew from Dr. Shepardson much information in response to their queries. We hope in the early fall to have a public meeting of the Society at which Dr. Shepardson will prove the chief attraction.

NOTICE TO MEDICAL OFFICERS

All physicians who have received commissions in the Medical Corps are requested to meet in Room 1006, City Hall, every Tuesday and Friday, 8:30 p. m., for the drill and instruction.

PUBLIC SERVICE FOR THE INSANE IN TIME OF WAR

During the year and a half since the United States went into War, there has been a veritable revolution in American Medical affairs. It is uncertain yet how far this revolution will go and what will be the end. Of our ninety-five thousand regular practicing physicians, not far from one-third have already entered military or naval service. Some good sized communities have already lost every young, able-bodied physician not an alien enemy. Others are sure to follow, until we will be in the condition of England and France in 1916.

Our institutions for the insane were generally supplied with about as many physicians per population before the war, as the healthy, prosperous village of the same size. The changes during the year and a half of war have been trying to the Administration. Most of the civil service young men not cripples or burdened with dependents, have already gone into Service. The extension of the draft age will take a lot more. The number of insane has not diminished. The management of our institutions has not undergone any parallel revolution. To complicate conditions still further, the nursing has been embarrassed by the same sort of depletion of both female and male nurses and guards. The other departments of service have suffered. With in-

creasing prices of all the necessities of life, increasing appropriations are not available. One superintendent recently wrote that he had not engaged in the practice of medicine but in promotion of agriculture, with lunatics for farmers and gardeners. The bulk of the work in the State Institutions, in which previously only a small amount of the labor was performed by the patients, is now performed by patients with scant and untrained supervision, and with no consideration for therapeutic employment and re-education. But this condition is better than deteriorating idleness, with squad walking once, and at best twice a day.

There are at least 140,000 dementia praecox patients in the institutions of the United States. In South Dakota seventy per cent of all patients are thus classified, and in New York, fifty-two per cent. Their average life after commitment, is fifteen years. More than half of them die of pulmonary tuberculosis. The institutions for the insane in the United States are of one sort or fashion. The only classification is in cottages or pavilions under one management. It would be possible to have rural colonies for the dementia praecox patients who could be profitably employed in producing agriculture. These patients who were thrown out of electric lighted, steam heated, many storied pavilions by the San Francisco earthquake, made for themselves shelters with the refuse of the old buildings, and though silent, inactive and dilapidated before, cooked and cared for themselves for months until removed into new buildings put up for them by contractors. Then their improvement came to an end and they relapsed into inactivity and progressive deterioration.

When school children are raising millions of dollars worth of truck in gardens on unused city lots, a goodly portion of the 280,000 insane could be placed in such rural colonies as that which flourished for nearly six hundred years at Gheel in Belgium, and for shorter periods in various parts of France. In order to bring about the productive therapeutic employment of the insane certain essential conditions must be met.

1. A rural community must be established on public lands, every member of which community must be an educated agriculturist trained not alone to cultivate the products of the soil in the largest quantity and best quality, but also, and more especially, to secure the greatest thera-

peutic result both physically and mentally for every workman by such cultivation.

That is to say, every farmer must be an agriculturist, an educator and a hygienist. This is not beyond possibility. When the public domain was used in New Zealand for the colonizing of workmen thrown out of employment by machines, such conditions were established for their benefit and whole villages were planted from the cities in tutelage of "social agriculturists." In Gheel families grew up to care for various classes of the insane and the community life was adapted to their social education and entertainment.

2. Each rural colony would require one permanent medical superintendent of the highest order. He would need to possess more than a velicity for betterment and cure; he must be ebullient with a determination not to produce more and better corn per acre, more and better wheat per acre, more and better stock per acre, but to promote the physical, the intellectual and the social health of his patients, and to return them in greater numbers and in better condition, to the families and the communities from which they came. It is doubtful if the civil service methods now in vogue could select such men, but they would appear and develop as the opportunity presented itself.

3. The colony should resemble as closely as possible, the ideal village life of today. It should be in no sense an institution, and connected with the existing institutions only through the superintendent. If the patient is to be returned to home conditions he should be re-educated as far as possible in the life he must live at home. This is done for the tuberculous patient in the best of our sanitariums for this disease. It is the practice of the rehabilitation hospitals in Italy, France and England, and the principle could be applied to the insane. The architect and the engineer can make or break the possibility of this realization.

The establishment of rural colonies would not only eliminate a large portion of the institutional diseases from the patients—tuberculosis, pellagra and beriberi, but it would give to the State Hospitals a possibility of becoming hospitals in fact, where the physicians and attendants might become alert for cure. Now the burden of routine paralyzes all investigation. The business of custody results in official pessimism

as to cure and the value of research. Words, names, adages and formulae displace observation, comparison, experiment and research. The patients are legally committed. There is no human sympathy between physician class and patient class. The State Hospital is an institution—immutable, unchangeable and cannot sin. Woe to the man or woman who enters the service of the State Hospital determined on investigation, experiment and research for etiology, pathology and cure, or any one of these.

In the State of New York, with its great system of Hospitals for the insane, and 38,000 committed patients, of whom fifty-two per cent were cases of dementia praecox, costing not less than four million dollars a year for custody alone, seventeen of these patients were discharged during the year as recovered. The conditions elsewhere are about the same. The present keepers of the insane, with the present single standard institutional life, are consistently pessimistic, of the cure of dementia praecox. (Jelliffe and White.)

With the demand for labor and the need of cultivating every inch of land as well as saving every individual, it does not seem unreasonable to undertake at this time to segregate those dementia praecox cases that could be expected to do profitable work in rural colonies under re-educational, social conditions.

B. H.

UNITED STATES PUBLIC HEALTH SERVICE

RUPERT BLUE, SURGEON GENERAL

EPIDEMIC INFLUENZA

(SPANISH INFLUENZA)

Supplement No. 33 to the Public Health Reports
September 27, 1918

An acute infectious disease (epidemic influenza) has prevailed in Europe this year similar in many respects to the disease which prevailed in pandemic form in the winter of 1889-90. It seems probable that in 1918, as in 1889-90, the earliest appearance was in eastern Europe. By April cases were occurring on the western front. In Spain, according to reports, 30 per cent of the population were attacked in May. The 1889 epidemic, starting in northern Europe, also fell heavily on Spain; the present ruler, then 3 years old, being one of the first attacked in Madrid. The King of Spain is said also to have been attacked in the present epidemic. The epidemic of 1918 was at its height in Germany in June and July. It has appeared in practically every section of Europe. In England the epidemic prevailed in May, June, and July.

Outbreaks have been reported from various sections

of the United States, but the spread has been by no means so rapid as in 1889, when the disease occurred in America almost simultaneously with its appearance in western Europe.

In the absence of a clean-cut symptomatology, distinct from that of other diseases, and of any criterion, such as a proved causative organism, demonstrable in the tissues of the patient or his discharges, it is difficult to make diagnosis in individual cases apart from an intense prevalence of the disease. It is likewise impossible for us to assert or deny the unity of this epidemic with that of 1889-90. The marked difference in season is notable. In 1889 the first outbreak occurred in St. Petersburg during October; in Berlin and Paris, during November; in Brussels, Copenhagen, London, Vienna, Rome, Madrid, Boston, New York and Philadelphia, during December, persisting in each place for one or two months. In 1918 the heavy incidence has been in summer, but the duration in any one focus, the general character of the disease, its tendency to spread along routes of travel, and the enormously high case incidence have been similar in the two pandemics.

The identity of the present outbreak with outbreaks in other years is even more uncertain.

Hippocrates and Livius refer to an epidemic in 412 B. C., which is regarded by many to have been influenza. Since ancient times, epidemics somewhat similar to the present outbreak have been recorded in the twelfth and thirteenth centuries, 4 in the fourteenth, 5 in the fifteenth, 8 in the sixteenth, including the pandemics of 1510 and 1580, 8 in the seventeenth, 20 in the eighteenth, and 14 in the nineteenth century, including the pandemics of 1831, 1833, 1837, 1847-48, and 1889-90. After the pandemic of 1847-48, there appears to have been a considerable pause before the pandemic of 1889-90 appeared "like a thunder cloud from the east," as Beck puts it. Following this pandemic, high incidence of epidemic influenza was reported during the winters of 1891 to 1894, 1907-8, and 1915-16.

The symptoms in the present pandemic have been an acute onset, often very sudden, with bodily weakness, and pains in the head, eyes, back, and elsewhere in the body. Vomiting may be a symptom of onset and dizziness is frequent. Chilly sensations are usual, and the temperature is from 100° to 104°, the pulse remaining comparatively low. Sweating is not infrequent. The appetite is lost, and prostration is marked. Constipation is the rule. Drowsiness and photophobia are common. The conjunctivæ are reddened, and the mucous membrane of the nose, throat, and bronchi often give evidence of inflammation. The general symptoms, however, predominate over the local. Cervical and general lymphadenitis and nystagmus have been reported to be very frequent by certain observers. Characteristically, there is no leucocytosis during the height of the fever, so that a high white count during the first 60 hours is indicative of another disease or of complication. The fever usually lasts from three to five days; but relapses are not uncommon, and complications, particularly pulmonary, are to be feared. The death rate is usually given as extremely

low; but in the latter periods of an outbreak an increased number of deaths, presumably due to complications, has been reported in Spain and in the United States. Besides bronchitis and pneumonia, inflammation of the middle ear and cardiac weakness may follow the disease.

Epidemic influenza may vary in type in different places; thus diarrhea was said to be frequent in Spain. It is to be supposed that in some places aberrant types may be found, but, in the absence of a definite criterion for diagnosis, it is impossible to affirm this with certainty.

In its onset, epidemic influenza may simulate almost any of the acute infectious diseases, but in the civil population it must be differentiated chiefly from an ordinary coryza or bronchitis, from cerebrospinal fever, and from such conditions as the glandular fever of children. In the usual coryza or bronchitis the general symptoms are by no means so severe or so sudden in appearance as in epidemic influenza, and the spread of these infections through a community is not so complete. Even in the absence of an outbreak of epidemic meningitis, the symptoms mentioned as typical of influenza, if combined with a stiff neck or Kernig's sign, would justify a lumbar puncture. A negative result with the lumbar puncture or the absence of a leucocytosis would indicate that meningitis was not present. Glandular fever is limited to children; other ephemeral fevers have not occurred in widespread fashion. The short course of the fever (always less than seven days) in uncomplicated influenza is thus an aid in diagnosis.

The incubation period is probably as a rule very short, though with such universal prevalence this is hard to verify. All ages are attacked, young active adults being especially susceptible. In Germany there has been such a preponderance of cases among the young that it is supposed that the 1889 epidemic conferred an immunity on most of those at present over 30 years of age. This has not been observed elsewhere.

All evidence points to human contact as being the means of spread, and from the local symptoms it has been assumed that the nose and throat have been the points of egress of the virus and the points of inoculation. There is nothing to show that other animals have any part in carrying the disease.

Discussion as to the etiology of the disease has been chiefly concerned with the question whether the influenza bacillus of Pfeiffer (1892) is the specific causative factor. This organism offers difficulties in recognition, cultivation, and identification, and it may be that the failure to find it in the last pandemic and the failure of many bacteriologists of standing to demonstrate it in the present pandemic are due to these difficulties. It is certainly found outside of epidemics, and we can not regard its absence at present as indicating that the disease is not epidemic influenza. For the present the diagnosis must be clinical rather than bacteriological. Streptococci and other diplococci, some similar to or identical with the micrococcus catarrhalis, have been reported as very frequent in the nose and

throat of patients. Pneumococci and bacilli of the Friedlaender group have been found in complicated cases. The mere predominance of a certain organism in the respiratory tract can not be accepted as proof that it causes the disease. It may be that the actual causative factor is a filterable virus.

The treatment is symptomatic. On account of cardiac weakness, rest in bed should be prolonged after defervescence in proportion to the severity of the case. Attention to cleanliness of the mouth, adequate ventilation, avoidance of exposure to cold, and isolation from those who may be carriers of virulent pneumococci and streptococci are measures advisable to prevent complications. Aspirin or similar remedies may be used to relieve headache and general pains. Watch should be kept for complications, and cases should not be discharged too early.

Crowded offices, and particularly street cars, are potent factors in the spread of the disease. In Berlin the street car conductors showed an exceptionally high incidence. The avoidance of street cars and of crowds, where possible, is therefore to be urged during an epidemic, although the disease is too mild to make it advisable to stop all the activities of a city. To prevent the transportation of the influenzal virus to the well and possible causes of complications to the sick, masks for sick-room attendants are advisable. The organism is probably short lived outside the body, and attention should be directed toward keeping people apart rather than toward the disinfection of things, aside from the precautions of general cleanliness. The spread of streptococcus pneumonia in military camps, and the fear that with the advent of cool weather severe pulmonary complications will follow influenzal attacks more frequently than during the past summer, indicate the urgent need for the adoption of more stringent precautions to prevent such complications than have been customarily taken hitherto.

The most dangerous form of human contact in the presence of epidemic influenza is, in all probability, that with coughers and sneezers. Coughing and sneezing, except behind a handkerchief, is as great a sanitary offense as promiscuous spitting, and should be equally condemned.

AMERICAN PUBLIC HEALTH ASSOCIATION MEETING

During this present year of 1918 Chicago has been the scene of many notable, important and nation-wide gatherings. But of all these, none perhaps will hold a higher place in the public's interest and value than will the forthcoming Forty-sixth Annual Meeting of the American Public Health Association, which will be held in Chicago, October 14-17. (Date may be changed—look for announcement in daily papers.)

As will be readily understood from its title, the American Public Health Association includes in its membership public health officials and sanitary engineers in the United States, Canada, Mexico and the South American countries.

An idea of the importance and character of the sessions may be had by a glance at some of the more

prominent features that will be presented during the four-day program.

There will be the presidential address by Chas. J. Hastings, M. D., of Toronto.

"Team Play for Public Health," by Geo. E. Vincent, president of the Rockefeller Foundation, New York City.

W. C. Gorgas, Surgeon General of the U. S. Army, will also deliver an address on some subject of timely and nation-wide importance as affecting our successful prosecution of the war.

Victor C. Vaughan, Colonel of the Medical Corps, N. A., will discuss "The Preservation of the Health of the Civil Population During the War."

Major Wm. H. Welch, Medical Corps, N. A., will present "Some Public Health Problems and Duties Created by the War."

Frederick L. Hoffman, Ph. D., the widely known statistician of the Prudential Life Insurance Company, will present some statistical and historical evidence showing the accomplishments of public health work.

Ernest S. Bishop, Professor of Clinical Medicine, New York University and Bellevue Medical College, will discuss the war-time importance of narcotic drug addictions.

Among the Chicago physicians who will take part in the program are W. A. Evans, M. D., who will present a plan for the reorganization of the American Public Health Association, and Dr. John Dill Robertson, who will present a paper on Venereal Diseases. Other speakers in the section of Public Health Administration will be Dr. S. Josephine Baker of the Department of Health, New York City, who will discuss "War and the Conservation of Child Life." An interesting and no doubt instructive paper will be offered by Dr. Paul B. Brooks, of the State Department of Albany, N. Y., on "Scoring of Health Activities in Cities." No doubt the purpose of this paper is to present a careful study of the value of public health activities as affecting the sickness and death rates of large centers of population.

In the Sociological Section there will be a round table discussion of the "Effect of the High Cost of Living on Public Health." The leaders of this discussion will be Dr. John Dill Robertson, Commissioner of Health of Chicago; Louis Harris, M. D., Bureau of Preventable Diseases, New York City, and E. R. Kelley, M. D., State Commissioner of Health, Boston, Mass. In this section also Miss Julia Lathrop, Director of the Federal Children's Bureau, Washington, D. C., will give her views on the relation of wages to infant mortality.

In the section of Industrial Hygiene Dr. Frederick M. Hoffman, of Newark, N. J., will offer his views on "The Problem of Organic Dust in the Modern Industries"; while J. W. Schereschewsky, M. D., of Washington, D. C., will give his views on "The Problem of Industrial Poisons"; and Elizabeth B. Bricker, M. D., of Harrisburg, Pa., will discuss "The Problem of Women in Industry." A subject of paramount interest at this time is the "Problems of the War Indus-

tries as Affecting Explosives, Textiles, Dyes, Metals and Shipbuilding." These will be presented for discussion by the following leaders:

W. G. Hudson, M. D., Wilmington, Del.; L. J. Lanza, M. D., Pittsburgh; Alice Hamilton, M. D., of Chicago; Loyal A. Shoudy, M. D., Bethlehem, Pa., and Lieutenant-Colonel Philip S. Doane.

Closely allied, and in fact an important factor in the problem of industrial hygiene, is that of Proper Housing of Industrial Workers. This will be discussed by Dr. Royal Meeker of Washington, D. C., and Professor C. E. Clewell of Philadelphia.

In the section of Sanitary Engineering, a public activity inseparably allied with public health work, a comprehensive and interesting program for the various sessions will be presented. Mr. Geo. S. Webster of Philadelphia is chairman of this section. Mr. Webster has served for thirty years with the Bureau of Surveys in Philadelphia, retiring only about two years ago to become Chief Engineer of the Department of Docks and Ferries. He is perhaps one of the most notable municipal executives in the sanitary engineering work in this country.

Mr. Edwin A. Fisher of Rochester, N. Y., is vice-chairman and will be in active charge of this year's program at the convention. He was for many years City Engineer of Rochester and is now serving as Consulting Engineer.

Lieutenant-Colonel P. S. Doane, Chief of the Department of Health and Sanitation of the U. S. Shipping Board, will present a paper describing the work of this Department. Col. Doane is a Chicago physician who offered his services to the government immediately after the declaration of war. For the past year he has been detailed on the important task of protecting the health of the army of ship builders throughout the United States.

A well-known veteran in the field of Sanitary Engineering is Rudolph Hering, who will attend the convention as a member of the Committee on Refuse Collection and Disposal. It will be remembered that Mr. Hering was the originator and designer of Chicago's Sewage Disposal Project; having been employed by former Mayor Carter H. Harrison, Sr., in 1887, as Chief Engineer of the Drainage Commission, which recommended the construction of the present Drainage Canal.

Geo. W. Fuller, the well-known engineer of New York City, will read a paper entitled "Recognition Given Sanitary Engineering Work in Government War Activities."

In addition to these mentioned, there will be various committees on air, water supplies, sewage and refuse disposal. Papers and discussions on these subjects will be presented and participated in by such well-known engineers as Edw. E. Wall, Chief Engineer of the St. Louis Water Works; Richard T. Fox, Head of the Citizen's Street Cleaning Bureau of Chicago; H. A. Whittaker, State Sanitary Engineer of Minnesota, and many others.

It will be seen from a reading of the more notable

features of the session, which have been mentioned, that far-reaching results along the lines of public health conservation are liable to come out of these gatherings.

With the exception of the sessions for the discussion of technical subjects, it is understood that the general public or those interested will be admitted up to the seating capacity of the halls or rooms in which the sessions are held. Detailed information as to the time and places where the general sessions will be held will be given later.

It is expected that there will be a large attendance of public health and social welfare workers and including also those in the field of sanitary engineering from all over the country.

September 20, 1918.

In connection with the forthcoming sessions of the American Public Health Association, it will be of interest to note that Surgeon General Rupert Blue has accepted the invitation of the Association to present his ideas of enforcing President Wilson's executive order, placing special war health activities as affecting the civilian population of the United States under the supervision of the Secretary of the Treasury. Surgeon General Blue will be assisted in this work by Assistant Surgeons General Schereschewsky, McLaughlin and Warren. As now planned the entire session of Tuesday evening, October 15th, will be given over to the discussion of these war health measures. It can readily be understood that this Tuesday evening session will be one of prime importance and it is expected that it will be largely attended.

A letter from the American Public Health Association, addressed to the mayors of the important cities throughout the United States, referring to the meetings of the Public Health Association to be held in Chicago, October 14-17, has already been sent out, and it is expected that the municipal executives, thus addressed, will see to it that the Health Departments of their cities are properly represented at these meetings; especially is it important that the municipal health officers should hear what Surgeon Generals Blue and Gorgas will have to say to the Association on matters vitally concerning public health conservation at this time.

MOBILIZATION OF WOMEN PHYSICIANS FOR ANESTHETIC SERVICE.

Every effort is being made to keep war surgery at topnotch efficiency and to provide every wounded American doughboy with safe, rapid and comfortable anesthesia, both at the front and in the hospitals in Blighty.

In this connection the following telegram is self-explanatory:

(Copy)

Washington, D. C., Sept. 18.

Dr. F. H. McMechan,

Avon Lake, Ohio.

Proceed at once to secure qualified women physi-

cian anesthetists under 45 years of age, of mental poise, as well as young women graduates, who are competent for such service.

(Signed) DR. FRANKLIN MARTIN,

DR. EMMA WHEAT GILLMORE,

Chairman, Women Physicians' Committee,
Council National Defense, Medical Section.

Those women physicians who are qualified for anesthetic service and who are competent to be intensively trained are requested, at once, to get in touch with

DR. F. H. McMECHAN, Sec'y,
Interstate Anesthetists,
American Anesthetists,
Avon Lake, Ohio.

VOLUNTEER MEDICAL SERVICE CORPS.

The central governing board of the Volunteer Medical Service Corps of the Council of National Defense announces that the Illinois State Executive Committee of the Volunteer Medical Service Corps is comprised of the following doctors:

Carl Black, M. D., chairman, Jacksonville.

Joseph P. Cobb, M. D., secretary, 2811 Cottage Grove Ave., Chicago.

Clarence A. Earle, M. D., Des Plaines.

A. Augustus O'Neill, M. D., 4607 Champlain Ave., Chicago.

William L. Noble, M. D., 32 N. State St., Chicago.

Thomas J. Watkins, M. D., 104 S. Michigan Ave., Chicago.

D. A. K. Steele, M. D., 30 N. Michigan Ave., Chicago.

W. A. Evans, M. D., 7 S. Dearborn St., Chicago.

L. L. McArthur, M. D., 122 S. Michigan Ave., Chicago.

The purpose of this committee is to co-operate with the central governing board in prosecuting all activities pertaining to the mobilization and enrollment of members of the Volunteer Medical Service Corps throughout the state.

The central governing board of the Volunteer Medical Service Corps also authorizes the appointment of one county representative in each county in every State of the Union. The county representatives for Illinois are as follows:

ILLINOIS.

County	Name	Street	City
Adams	Dr. L. A. H. Nickerson		Quincy
Alexander	Dr. W. E. Grinstead		Cairo
Bond			
Boone	Dr. George Markley		Belvidere
Brown	Dr. E. E. Allworth		Mt. Sterling
Bureau	Dr. Blackburn		Princeton
Caroll	Dr. R. C. Miller		Shannon
Cass	Dr. A. R. Lyle		Virginia
Champaign	Dr. C. B. Johnson		Champaign
Clark			
Clay			
Clinton			
Coles	Dr. O. W. Ferguson		Mattoon

Cook	Dr. T. A. Davis, 2344 W. Jackson Blvd.	Chicago
"	Dr. J. C. Stubbs, 2026 W. 21st St.	Chicago
"	Dr. C. A. Buswell, 4455 N. Ashland Av.	Chicago
"	Dr. W. J. Yeakel, 4207 N. Keeler Ave.	Chicago
"	Dr. C. P. Caldwell, 4427 Michigan Ave.	Chicago
"	Dr. C. H. Miller, 6301 Cottage Grove Ave.,	Chicago
"	Dr. O. J. Freer, 81 E. Elm St.	Chicago
"	Dr. J. A. Davidson, 1601 W. Grand Av.	Chicago
"	Dr. W. A. Kuflewski, 1368 N. Robey St.	Chicago
"	Dr. N. W. Bacon, 7321 Princeton Ave.	Chicago
"	Dr. W. T. Harsha, 932 E. 44th St.	Chicago
"	Dr. J. W. Kelly, 159 E. 111th St.	Chicago
"	Dr. A. L. Blackwood, 3004 E. 92nd St.	Chicago
"	Dr. J. F. Schrieber	Chicago Heights
"	Dr. M. C. Bragdon, 1709 Chicago Av.	Evanston
"	Dr. W. L. Mettler	Hubbard Woods
"	Dr. A. M. Corwin, 801 South Blvd.	Oak Park

Crawford—

Cumberland—

DeKalb—Dr. C. D. Carter.....DeKalb
Douglas—

Edgar—Dr. Geo. H. Hunt.....Paris

Edwards—Dr. W. E. Buxton.....W. Salem

Effingham—Dr. F. W. Goodill.....Effingham

Fayette—Dr. George Green.....Vandalia

Ford—Dr. S. N. Wylie.....Paxton

Franklyn—

Fulton—Dr. J. E. Coleman.....Canton

Gallatin—Dr. J. W. Bowling.....Shawneetown

Greene—Dr. H. W. Chapman.....Whitehall

Grundy—Dr. W. E. Walsh.....Morris

Hamilton—Dr. W. W. Hall.....McLeansboro

Hancock—

Hardin—Dr. W. J. Paris.....Rosiclare

Henderson—Dr. W. J. Emerson.....Lomax

Henry—Dr. W. D. Hohmann.....Kewanee

Iroquois—Dr. D. W. Miller.....Gilman

Jackson—Dr. H. C. Mitchell.....Carbondale

Jasper—Dr. J. P. Prestley.....Newton

Jefferson—

Jersey—Dr. H. R. Cledhill.....Jerseyville

Jo Daviess—Dr. T. J. Stafford.....Stockton

Johnson—

Kane—Dr. C. E. Colwell.....Aurora

Kankakee—Dr. G. M. Phelps.....Kankakee

Kendall—Dr. R. A. McClelland.....Yorkville

Knox—Dr. L. B. Becker.....Knoxville

Lake—Dr. F. C. Knight.....Waukegan

LaSalle—Dr. E. W. Weis.....Ottawa

Lawrence—Dr. E. M. Cooley.....Lawrenceville

Livingston—Dr. J. A. Marshall.....Pontiac

Logan—Dr. T. M. Erving.....Lincoln

McDonough—Dr. R. F. Marrs.....Sciota

McHenry—Dr. Hyde West.....Woodstock

McLean—Dr. W. E. Guthrie.....Bloomington

Macdon—Dr. William Barnes.....Decatur

Macoupin—Dr. G. E. Hill.....Girard

Madison—Dr. C. W. Fiegenbaum.....Edwardsville

Marion—

Marshall— } Dr. G. F. McCormick.....Hennepin

Putnam— }

Mason—Dr. C. W. Cargill.....Mason City
 Massac—Dr. J. A. Helm.....Metropolis
 Menard—Dr. A. L. Britton.....Athens
 Mercer—Dr. Frank Rathburn.....New Windsor
 Monroe—Dr. L. Adelsberger.....Waterloo
 Montgomery—Dr. G. A. Clotfelter.....Hillsboro
 Morgan—Dr. E. F. Baker.....Jacksonville
 Moultrie—
 Ogle—Dr. J. T. Kretzinger.....Chief River
 Peoria—Dr. O. B. Will.....Peoria
 Perry—
 Piath—Dr. St. Clair France.....Bement
 Pits—Dr. W. E. Shasted.....Pittsfield
 Pope—
 Pulaski—Dr. L. F. Robinson.....Ullin
 Randolph—Dr. A. E. Fritze.....Chester
 Rock Island—Dr. G. L. Eyster.....Rock Island
 Salline—Dr. M. D. Empson.....Galatia
 Saugamon—Dr. E. E. Hagler.....Springfield
 Schuyler—Dr. A. W. Ball.....Rushville
 Scott—Dr. J. Weis.....Manchester
 Shelby—Dr. W. J. Eddy.....Shelbyville
 St. Clair—Dr. G. F. Wiggin.....E. St. Louis
 Stark—Dr. J. R. Holgate.....Wyoming
 Stevenson—Dr. J. W. Staley.....Freeport
 Tazewell—Dr. W. Niergarth.....Pekin
 Union—Dr. S. C. Martin.....Anna
 Vermilion—Dr. O. W. Ferguson.....Mattoon
 Wabash—Dr. P. G. Manley.....Mt. Carmel
 Warren—
 Washington—
 Wayne—Dr. T. J. Williard.....Fairfield
 White—Dr. J. T. Legier.....Carmi
 Whiteside—Dr. J. F. Keefer.....Sterling
 Will—Dr. Minnie F. Bowles.....Joliet
 Williamson—
 Winnebago—Dr. W. F. Fitch.....Rockford
 Woodford—Dr. W. A. Millard.....Minonk

VOLUNTEER MEDICAL SERVICE CORPS OF THE UNITED STATES

AUTHORIZED BY THE COUNCIL OF NATIONAL DEFENSE,
 APPROVED BY THE PRESIDENT OF THE
 UNITED STATES.

INFORMATION.

1. What is the Volunteer Medical Service Corps?

The Volunteer Medical Service Corps is an organization which provides means for obtaining quickly men and women for any military or civil medical service required in the war emergency. It furnishes recommendations and necessary credentials to assure the best medical service, both military and civil.

2. How should application for membership be made?

Upon request to the Volunteer Medical Service Corps, Council of National Defense, Washington, D. C., application blanks and circulars of information will be sent. When received, the application form should be filled out completely, in accordance with in-

structions contained in the circular of information. The application should then be mailed to the Volunteer Medical Service Corps, Council of National Defense, Washington, D. C.

3. What is to be gained by the creation of this organization?

Placing on record all medical men and women in the United States; aiding Army, Navy, Public Health Service, Provost Marshal General's Office and the American Red Cross in supplying war medical needs; providing the best civilian medical service possible; giving recognition to all who record themselves either in Army, Navy, Public Health Service, Provost Marshal General's Office, Red Cross activities or civilian service.

4. What is meant by classification?

It is the record of information furnished by the individual physician so that when the need arises, he may be requested to perform service that will be mutually advantageous to the individual and the service to which he may be assigned.

5. Who are eligible?

Every legally qualified physician holding the degree of Doctor of Medicine from a legally chartered medical school without reference to age or physical disability is eligible for membership in the Volunteer Medical Service Corps provided he or she is not already commissioned in the Government service.

6. How is eligibility to the Corps determined?

Upon information obtained from application blanks, three personal references and the Executive Committee of the state in which the applicant resides. Based upon the information thus secured, the Central Governing Board will finally pass upon applications.

7. Does membership in the Corps carry with it rank and pay?

This Corps is not authorized to bestow rank. Arrangements for compensation shall be made between a member requested to perform a specified duty and the agency requesting service. The matter of compensation and place of service whether with or without rank must be determined at the time said request is made. When a member of the Corps accepts service in the Medical Reserve Corps of the Army, the Naval Reserve Force, the United States Public Health Service, the American Red Cross or any governmental department, he or she will be accorded the rank and pay incident to the service in the department in which he or she has enrolled.

8. Will any member of this Corps be ordered to active duty?

No member will be ORDERED to render any service. Requests to perform specific duties according to qualifications and availability under the classification of the Volunteer Medical Service Corps may be made from time to time as emergencies arise.

9. What will be the probable character of service member will be requested to render?

- (a) Medical Reserve Corps.
- (b) Naval Reserve Force.

- (c) United States Public Health Service.
- (d) American Red Cross.
- (e) Local and medical advisory boards.
- (f) State and local health departments.
- (g) Medical Schools and Hospitals.
- (h) Industrial plants.
- (i) Civil Communities—Caring for civil communities, stripped of medical attention. Caring for practices of physicians in military service. Reclamation of registrants rejected for physical unfitness. Services to needy families and dependents of enlisted men.

(j) Miscellaneous service.

10. If members of the Corps are recommended for active military or naval service, in what order will they be recommended?

(a) Physicians under 55 years of age without dependents and without physical disabilities which are disqualifying will first be recommended. Following this group, physicians under 55 years of age without obvious physical disabilities which are disqualifying and with not more than one dependent in addition to self (Class 1 of the Volunteer Medical Service Corps) will be among the first to be recommended for actual war service. Any physician under 55 years of age who is without an obvious physical disability which is disqualifying and whose dependents have an income sufficient for the support of dependents other than that derived from the practice of his profession, may be recommended to enroll in the Medical Reserve Corps of the Army, the Naval Reserve Force or the United States Public Health Service when in the opinion of the respective Surgeons General his services are needed.

(b) Physicians under 55 years of age without obvious physical disabilities which are disqualifying and with not more than three dependents in addition to self (Class II of the Volunteer Medical Service Corps) will be the next group to be recommended to apply for active military or naval service.

(c) The next group recommended to enroll for active duty with the Army, Navy or Public Health Service (Class III), will be physicians under 50 years of age who are without obvious physical disabilities which are disqualifying and with more than three dependents in addition to self.

11. What are the exceptions in these groups?

The exceptions in the above groups of physicians are as follows:

- (a) Those essential to communities.
- (b) Those essential to medical schools and hospitals.
- (c) Those essential to health departments.
- (d) Those essential to industries.
- (e) Those essential to local and medical advisory boards.

12. How will exceptions to these groups be determined?

(a) *Essential to communities.*

Essential community need will be determined by the Central Governing Board on recommendation of representatives of the Central Governing Board ap-

pointed by the Board to make a survey of local conditions.

(b) *Essential to institutions.*

Essential institutional need will be established after conference between representatives of the Central Governing Board of the Volunteer Medical Service Corps and representatives appointed by the governing bodies of the institutions concerned.

(c) *Essential to health departments.*

Essential health department need will be determined after conference between representatives of the Central Governing Board, Volunteer Medical Service Corps and representatives of health departments.

(d) *Essential to industries.*

Essential industrial need will be determined after conference between representatives of the Central Governing Board, Volunteer Medical Service Corps and accredited representatives of industries involved.

(e) *Essential to local and medical advisory boards.*

Essential local and medical advisory board needs will be determined after conference between representatives of the Central Governing Board, Volunteer Medical Service Corps and representatives of the Provost Marshal General's Office.

13. When will physicians who are not classified for actual military or naval service be requested to perform service?

When the emergency arises the following may be requested to perform duties in accordance with their qualifications and expressed merits as indicated by the information contained on their application blanks:

- (a) Physicians over 55 years of age.
- (b) Physicians with obvious physical disabilities which are disqualifying.
- (c) Those rejected for all government service because of physical disability.

14. What are some of the duties that this last group of physicians ineligible for active military service may be requested to perform?

(a) Deducting those members of the medical profession who will eventually be in active military, naval or public health service, fully seventy-five per cent of the remainder will be encouraged to continue at their home duties.

(b) Some of these may be called upon to supplement their private practices by performing part time service to meet community needs hitherto performed by men called to active duty.

(c) Twenty-five per cent of those not actually engaged in war service (possibly 20,000 in number) who are now engaged in home duties but who have agreed to do work of any kind, anywhere, upon request of the Central Governing Board, will as the emergency arises be recommended for duty in the following places:

- 1. Local and medical advisory boards.
- 2. Medical Schools and Hospitals.
- 3. Industrial plants.
- 4. Health Departments.
- 5. Communities lacking medical service.

15. How does enrollment in this Corps differ from actual conscription?

The Volunteer Medical Service Corps is exactly what its name indicates. It is a gentleman's agreement on the part of the civilian doctors of the United States who have not yet been commissioned in the Army or Navy or enrolled in the Public Health Service, or in the service of the Provost Marshal General, and a representative board consisting of government officials associated with lay members of the profession in which the civilian physicians agree to offer their services to the Government if requested to do so by the Central Governing Board.

16. In what way can this Corps aid the Government?

By recording all physicians who are not yet in service and classifying them so as to utilize the talents and facilities of individuals to the best advantage and inflict as little hardship on the individual as possible, in accordance with the letter from the President of the United States authorizing the Corps—"to supply the needs of the Army, Navy and Public Health Service * * * aiding in the important work of the Provost Marshal General's Office and Red Cross * * * and the problems of the health of the civilian communities of the United States." It provides a method by which every physician not in uniform will be entitled to wear an insignia which indicates his willingness to serve his Government. It furnishes a method by which the medical needs of the nation may be provided for through a representative board of physicians who know the needs of the Army, Navy, Public Health Service, Red Cross and civil communities.

17. To what extent must provision be made for essential civilian and industrial medical needs?

A large percentage of the physicians of the country will be required to care for their respective home communities and to meet civilian health needs. This percentage of necessity will be expected to maintain their home status and continue their professional work.

18. Will enrollment in the Volunteer Medical Service Corps excuse a physician in the draft age from registration under the Selective Service Law or⁸ from being classified therein?

Positively not.

19. Why then enroll in the Volunteer Medical Service Corps if it does not supplant the draft?

(a) Under the Selective Service Law individuals in the draft age are registered and inducted into the service as privates. The Volunteer Medical Service Corps enrolls and classifies individuals as prospective commissioned officers and will when requested assist in establishing the individual's status when he requests transfer from the enlisted forces to the commissioned branches of the service.

(b) Enrollment in the Volunteer Medical Service Corps definitely registers the physician as a patriot and provides definite governmental recognition of his willingness to serve.

20. Why should every physician in the United

States enroll in the Volunteer Medical Service Corps?

(a) The unsurpassed record of volunteer enrollment for actual service on the part of the medical profession must be maintained.

(b) The Army and Navy must not be hampered for a moment for lack of doctors to care for the sick and wounded boys fighting our battles at the front.

(c) The public health must be conserved.

(d) The medical needs of the Provost Marshal General must be adequately met.

(e) The great industries furnishing materials of war, employing thousands of patriotic workers, must have medical service.

(f) The home folks, the old and the young wearily waiting over here, must have doctors.

(g) Recording, classifying, and careful distribution and full utilization of our entire profession of medicine will enable us to instantly supply all demands, and our utmost resources will then be available to aid in establishing a permanent peace that will forever make this world a safe place in which women and children may live.

OFFICIAL ANNOUNCEMENT

THE VOLUNTEER MEDICAL SERVICE CORPS

AN APPEAL TO EXECUTIVE COMMITTEES AND COUNTY REPRESENTATIVES OF THE VOLUNTEER MEDICAL SERVICE CORPS, AND STATE COMMITTEES OF THE COUNCIL OF NATIONAL DEFENSE

No official or committeeman representing the Volunteer Medical Service Corps or the General Medical Board of the Council of National Defense is now authorized or has been authorized to favor any organized or unorganized method of coercion in inducing members of the medical profession to join the Medical Corps of the Army or Navy, or the Volunteer Medical Service Corps. Our committeemen are especially urged against favoring any movement that would threaten to impair a medical man's standing in his local, state or national society because he refused to enroll in the Army or Navy, or the Volunteer Medical Service Corps.

IT MUST BE MADE CLEAR THAT THE VOLUNTEER MEDICAL SERVICE CORPS IS A VOLUNTEER ORGANIZATION WHICH HAS FOR ITS OBJECT THE ENROLLMENT AND CLASSIFICATION OF THE PROFESSION. Its members are entitled to wear an insignia which will clearly indicate that they have offered their services to the government, when such services are needed. Patriotism cannot be created by coercion. It also must be made clear that the Volunteer Medical Service Corps has for its primary object, furnishing its classification to the Army, the Navy, the Public Health Service, the Red Cross and Provost Marshal, as well as to civilian institutions and communities, as a guide in providing for their needs to the best advantage.

The object of the Corps is not to disturb any medical man in the performance of any duty to which he

has been assigned by any governmental agency either for service at the front or at home.

(Signed) EDWARD P. DAVIS, President,
Volunteer Medical Service Corps.
FRANKLIN MARTIN, Chairman,
General Medical Board, Council
of National Defense.

WAR INDUSTRIES BOARD

WASHINGTON

UTILIZATION OF PLATINUM IN UNUSED INSTRUMENTS

To the Doctors and Dentists of the Country:

1. In view of the limited supply of platinum in the country and of the urgent demand for war purposes, it is requested that every doctor and dentist in the country go carefully over his instruments and pick out every scrap of platinum that is not absolutely essential to his work. These scraps, however small, and in whatever condition, should reach governmental sources without delay, through one of two channels:

(a) They can be given to proper accredited representatives of the Red Cross who will shortly make a canvas for that purpose.

(b) They may be sold to the government through any bank under the supervision of the Federal Reserve Board. Such banks will receive and pay current prices for platinum.

By giving this immediate attention you will definitely aid in the war program.

2. It is recognized that certain dental and surgical instruments requiring platinum are necessary, and from time to time platinum is released for that purpose. It is hoped, however, that every physician and every dentist will use substitutes for platinum for such purposes wherever possible.

3. You are warned against giving your scrap platinum to anyone who calls at your office without full assurance that that individual is authorized to represent the Red Cross in the matter.

LIEUT. COL. F. F. SIMPSON, M. C., N. A.,
Chief of Section of Medical Industry.

PRACTICAL PATRIOTISM

"No, we haven't raised our prices and have no present intention of doing so. We have a long lease on our place of business and so our rent hasn't gone up on account of the war. Some extras must be increased in price, of course, because materials that we have to buy have gone up, and we have to pay more for living expenses, it is true. But we aren't going to advance our regular service prices until we are absolutely compelled to do so, and we don't think that time is likely to come soon. You see this country is in a great war. We think we not only ought

to bear our share of the burden and expenses as men beyond military age but that we ought to help save the money of our customers so they will be able to do more to help the government win the war."

This statement was actually made the other day to an amazed customer by a Detroit business man.

It is a lesson in practical patriotism. It carries its own argument and needs no reinforcing words.

Who made it? A Negro barber.

—Editorial from *Detroit Free Press*, Aug. 30.

TREASURY DEPARTMENT

BUREAU OF THE PUBLIC HEALTH SERVICE
WASHINGTON

OFFICE OF THE SURGEON GENERAL

To the Editor: The ultimate withdrawal of more than 30,000 physicians from communities throughout the country imposes an additional obligation upon the people to avoid unnecessary illness, to correct physical deficiencies that may lead to illness, and to so order their living habits, their activities, their indulgences, that they may not only avoid illness but increase their physical capacity to the utmost.

Although the demands upon your space are ever great, the U. S. Public Health Service will deem it a valuable contribution on your part to the health conservation of our country if you will give the following bulletin as extended and prominent a space as the exigencies permit.

Very truly yours,

ROBERT BLUE,
Surgeon General.

Health Instructions Through Draft Boards

Washington, D. C., Sept. 23.—Provost Marshal General Crowder today called attention to a circular of instructions prepared by the United States Public Health Service for registrants declined in the draft because of physical disability. The circular, copies of which have been placed in all the local draft boards throughout the country, is the result of a recommendation made to General Crowder by Surgeon General Rupert Blue of the U. S. Public Health Service. The Surgeon General points out that in the first draft about one-third of the men examined were rejected for physical disabilities and that hundreds of thousands will be added as a result of the examinations to be made of the new registrants.

"It is highly desirable," said Surgeon General Blue, "that the men found to be disqualified for military service by the examining physicians of the local draft boards should receive definite instructions as to the meaning of their disabilities and that a strong appeal be made to them to correct these disabilities as far as possible. But the object of this measure is not only

to reclaim men for military service or for such service as they can perform, but to lessen the burden of illness and disability among those engaged in essential industrial work. It is hoped that the instruction in this circular, which is really a primer of the physical defects of the nation, will reach far beyond the draft board and be utilized by all agencies interested in improving the public health to instruct the people with regard to their physical deficiencies and the ways and means by which they can be remedied."

According to the U. S. Public Health Service experience everywhere shows that the proportion of persons with physical impairments is considerably greater in persons between 30 and 40 than in those between 20 and 30 years of age. This waning vitality at ages over 30, so commonly accepted as inevitable, can be postponed to a large extent. In this connection, it is pointed out that 60 per cent of the physical defects found in the last draft were of a preventable or curable nature.

In addition to furnishing all the local draft boards throughout the country with a sufficient number of the circulars to supply one to each registrant rejected because of physical disability, arrangements have been made to furnish specimens of the circular to life insurance companies, fraternal organizations, labor unions, employers of labor and others who desire to reprint the circular in its present official form for wider distribution.

"The U. S. Public Health Service will be glad to furnish specimens of this circular on application and urges all organizations that can reach large groups of people to reprint and distribute the circular and thus contribute materially to the public welfare and the national defense."

The circular issued by the U. S. Public Health Service is entitled "Information for Guidance and Assistance of Registrants Disqualified for Active Military Service Because of Physical Defects." It is a four-page leaflet, containing specific information relating to the commoner causes of rejection or deferred classification, e. g., defective eyesight, teeth and disease, feet, underweight, overweight, hernia, hemorrhoids, varicocele, varicose veins, bladder, kidney and urinary disorders, ear trouble, heart affections, high blood pressure, lung trouble, rheumatism, venereal disease, alcohol, nervous and mental disease, and miscellaneous conditions. The information is presented in simple form and has been approved by the highest medical authorities. At the end is a striking quotation from President Wilson: "It is not an Army we must shape and train for war; it is a Nation." This is followed by the following personal appeals:

"Do not go through life with handicaps that may be easily removed. Do not shorten your life, reduce your earning capacity and capacity for enjoying life, by neglecting your bodily condition."

"While other men are cheerfully facing death for the cause of democracy, do not shrink from facing a little trouble and expense to make yourself strong, healthy and fit."

Over a million copies of the leaflet have been sent out to the draft boards. Requests for specimen copies should be addressed to the U. S. Public Health Service, Washington, D. C.

UNITED STATES PUBLIC HEALTH SERVICE

WASHINGTON, D. C.

INFORMATION FOR GUIDANCE AND ASSISTANCE OF REGISTRANTS DISQUALIFIED FOR ACTIVE MILITARY SERVICE BECAUSE OF PHYSICAL DEFECTS

If you are specially classified or are not available for military service for physical reasons, you are urged carefully to note the suggestions given for improving your condition.

Consult a competent physician or dentist, according to your needs. Hospitals, dispensaries, local Health Departments and the United States Public Health Service are also sources of information and possible relief. If you are in a deferred group for physical reasons and not declined, report to your local board before having any radical operation and secure information as to the best course to pursue.

You owe it to yourself, to your family, and to your country, to place yourself in good physical condition for whatever service you can perform, whether military or civil.

Many men have a number of defects apart from the main disqualifying defect. All defects should have attention.

The following are the common causes for rejection or for special classification:

Defective Eyesight.—Be sure that your vision is corrected by properly fitted glasses. Have this done by an eye specialist, eye dispensary, or eye hospital. Do not try to fit cheap glasses to your own eyes. Eye strain from badly fitting glasses may in time seriously affect your eyesight or health.

Teeth.—Decayed roots, infected gums, decayed teeth, irregular teeth which can not grind may cause many forms of serious disease, and should have immediate attention. Artificial teeth or bridges should be secured if the grinding teeth are missing, for if you do not properly chew your food your health may be affected. Brush the teeth thoroughly at least twice a day. If you have defective teeth or much gold work or many fillings in your mouth, X-Ray to discover possible root infection is a wise precaution, especially if you have rheumatism or any joint trouble, for which other causes can not be found.

Feet.—Aside from paralysis, clubfoot, or deformities resulting from injuries, etc., most foot troubles are due to improperly fitting shoes, improper position in walking or standing, lack of exercise, and weakness of the muscles in the forepart of the leg that support the arch of the foot. Properly fitting shoes, of correct shape, with a straight inner edge (the Munson Army last is a good style) will help to correct weakfoot, bunions, corns, callouses, and painful joints. Exercise the toe muscles by working the toes up and down over

the edge of a thick board, thirty times daily. Stand with feet parallel and somewhat apart with great toes firmly gripping the ground. Without bending the knees or moving the feet rotate the thighs outward repeatedly. This is chiefly done by strong contraction of the great muscles of the back of the thigh and seat. Improve your general health; take general exercise to strengthen your body. Bathe the feet daily. See a surgeon if these simple measures are not sufficient. The arches found in the shoes will not correct flat-foot. They merely act as crutches. Hammertoe, bunion, and many other defects can be corrected by a surgeon. Painful feet may be due to infection in tooth sockets or tonsils—search for such conditions should be made. Mere flatness of the foot without pain or other deformity may be of no importance.

Underweight.—Underweight is often due to irregular habits of eating and sleeping and lack of regular exercise. Have a thorough examination at intervals by a competent physician, or in dispensary or clinic, to determine whether or not any serious disease exists (especially hookworm or tuberculosis). Eat freely of fat-forming foods mentioned in next paragraph.

Overweight.—Secure as much regular exercise as possible. Be thoroughly examined for evidence of disease. Extreme overweight, especially at middle life, produces as high a death rate as heart disease. Cut down the fat-forming foods, such as bread, butter, cereals, sugars, fats, and substitute more green vegetables and fruits.

Hernia or Rupture.—Operation is often advisable. Consult a competent surgeon and confer with your local board.

Piles, Hemorrhoids.—These are often caused by constipation and lack of exercise. Do not use drugs or purgatives. Plenty of bulky food, bran bread or biscuits, fruits, lettuce, spinach, cabbage, brussels sprouts, carrots, turnips, celery, tomatoes, salsify, onions, parsnips, and oyster plant will tend to correct constipation.

If piles are severe operation will help, but the original cause should be removed by proper diet. Agar-agar harmless, and not a drug, can be had at any drug store. Take a teaspoonful three times a day.

Varicocele.—If severe enough to cause rejection operation may be performed. Upbuild general health by exercise and nourishing diet and fresh air. A suspensory bandage is often required.

Varicose Veins.—Support by bandage or stockings. At times removal by operation. (Great caution necessary, consult your board.)

Bladder, Kidney, Urinary Troubles.—Go to your physician or to a clinic and place yourself under careful medical supervision. Regulation of your diet, work and activities may be all that is necessary, but your condition should be watched from time to time. Albumin in the urine may be temporary but should always be followed up and examinations made at intervals. Give the benefit of the doubt to your kidneys, and live a temperate and healthful life, avoiding stimulants, excess of meat and overeating generally. Be

examined periodically. Sugar in the urine calls for careful medical supervision and regulation of diet and periodic examination by a physician.

Discharge from Ear: Ear Trouble.—See an ear specialist or go to an ear clinic. Do not neglect such a condition, which may infect other parts of your body.

Heart Murmurs: Heart Affections.—A man with an imperfect heart may not be fit for military service, but with proper regulation of diet, exercise, work and rest, his heart may carry him to old age. Avoid stimulants and tobacco, be very temperate in the use of tea and coffee, avoid excesses of all kinds; eat moderately; avoid heavy meals at night; get plenty of fresh air; exercise daily in the open but be careful not to overfatigue your heart or circulation—walking and gentle hill-climbing are good, but never when they cause pain in the chest or shortness of breath. Avoid dissipation and undue excitement. If there is breathlessness, dropsy, or dizziness, careful medical supervision is necessary. All damaged hearts should be examined at least once a year by a physician and the condition noted. Irregular action of heart in some cases is of little importance; in others it is serious and medical observation is important to settle this.

High Blood Pressure.—This may be temporary but should be watched and life regulated as above, especially avoiding physical and mental over-strain and dissipation. Eat little meat; avoid stimulants, tobacco, and overeating.

Lung Troubles.—Where there is suspected tuberculosis consult a competent physician and follow orders strictly. The basis of treatment is abundant fresh air and nourishing diet, such as bread and butter, cereals and fats, but do not neglect green vegetables and fruits. Avoid alcohol and tobacco. Do not take patent medicines or advertised remedies, or patronize advertising quacks. Avoid fatigue, or physical and mental strain. Do not take any chances. Report to the health officer or Health Department of your district. They will be glad to counsel you.

Rheumatism.—This may be caused by infection in tonsils, teeth, nasal cavities, or elsewhere. Liniment will not cure it. Be examined by a physician and dentist and have infection removed.

Syphilis—Gonorrhea.—Thorough-going, persistent treatment is necessary for your protection and for the protection of the members of your family as well as that of your community. In large cities clinics for the treatment of these diseases are available for those without funds.

Alcohol.—Alcohol as ordinarily taken is not a stimulant but a depressing drug. Your brain and nervous system govern your body. Alcohol not only reduces the efficiency of a nation, but life insurance experience has shown that the death rate among steady drinkers supposed to be temperate—even within the bounds of so-called moderation—is nearly double that among average people.

Drink may lead you into trouble, possibly to a miserable death.

Why deliberately expose yourself to this sort of machine-gun fire?

Nervous and Mental Diseases.—Such conditions should be closely observed by your physician or at some clinic for nervous diseases. Some nervous diseases are due to bad mental habits, to fear, failure to take a courageous grip on life and forget one's troubles. Many nervous diseases are caused by physical conditions which should be sought for and cured by a thorough medical examination and treatment.

Miscellaneous Conditions.—Nose and Throat Trouble; Gall Bladder Trouble; Chronic Appendicitis; Skin Affections.—All such conditions should have immediate medical investigation. If you have no family physician, or if your means are limited, seek hospital or dispensary treatment.

Do not go through life with handicaps that may be easily removed. Do not shorten your life, reduce your earning capacity and capacity for enjoying life, by neglecting your bodily condition.

While other men are cheerfully facing death for the cause of liberty, do not shrink from facing a little trouble and expense to make yourself strong and healthy and fit.

*"It is not an Army We Must Shape
and Train for War; it is a Nation."*

—Woodrow Wilson.

DO YOUR PART TO MAKE THE NATION FIT!

Examiners will render a service in the interests of public health and therefore a military service apart from the possible reclamation of declined registrants by handing the leaflet to declined or special classified men with a check opposite the important impairments.

Public Health

MILITARY ZONE HEALTH DISTRICTS

Under the authority imposed upon it by the laws of Illinois and in accord with the orders issued by the Secretary of War and the Secretary of the Navy, the Director of the State Department of Public Health has designated several new military zone health districts surrounding the established military camps and cantonments and the schools and colleges designated by the Federal Government for military training. Under the old ruling of the War and Navy Departments, the military health zones were five miles in width; but, under an order dated August 1 of this year, the width was extended to ten miles.

Within these districts, the State Department of Public Health calls upon all health officers, members of local boards of health and other health authorities to promptly and strictly enforce all national, state and local health regulations and to take such other measures as may be necessary to protect the health of the people of their communities.

While the State Department of Public Health will

keep in close touch with these districts for the prevention and suppression of all communicable diseases and the removal of all insanitary conditions, special attention will be given, through the Division of Social Hygiene and in conjunction with federal authorities, to the control and prevention of venereal diseases. For this special work, there has been appropriated for Illinois, through a special act of Congress, the sum of \$67,000.00.

The failure or refusal of local health authorities to enforce health regulations in these districts will necessitate action on the part of the State Department of Health to the extent of taking over the health supervision by the state at the expense of the community as authorized under the Illinois laws.

MILITARY ZONE HEALTH DISTRICTS

Camp Grant District.

Fort Sheridan, Great Lakes, Lake Forest University and Northwestern University District.

Mooseheart School and Wheaton College District.

Augustana College and Rock Island Arsenal District.

Hedding College, Knox College, Monmouth College, Lombard College District.

Camp Herring, Bradley Polytechnical School and Eureka College District.

Illinois Wesleyan University District.

St. Viator's College District.

Chanute Field, University of Illinois District.

James Milliken University District.

Springfield Truck School District.

Illinois College District.

Scott Field, Lebanon College, Shurtleff College District.

Chicago District.

STATE RULES FOR THE CONTROL OF INFLUENZA

The State Department of Public Health has issued rules and regulations for the control of influenza which became effective on September 28. In these rules, influenza is declared "a contagious, infectious and communicable disease dangerous to the public health," and it is made the duty of the physician, nurse or other attendant, druggist, principal, directing officer of any hospital, school, jail or similar institution, parent, householder or other person having knowledge of cases of influenza or suspected case to report same to the local health authorities. The report may be transmitted by telephone, but, if so, must be followed promptly by a report in writing. The local health authority is then required to report the case immediately to the State Department of Public Health.

The isolation and management of the case are covered in the following rule:

"Rule 4—Isolation of the Patient and Other Necessary Precautions.—Any person having influenza shall

be confined to a large, well ventilated room of proper temperature, as remote from other occupants of the premises as is practicable and necessary to avoid contact.

"The period of isolation should continue during the course of the disease and until the patient no longer harbors the causative organism in the respiratory tract.

"None other than the necessary medical and nursing attendants shall enter the sick room or come in contact with the patient. The attendant should wear a face mask of gauze or other approved design when in attendance upon the patient.

"All discharges from the respiratory tract, mouth, throat and nose of the patient shall be received in cloths which shall be burned immediately after using, or in vessels containing an approved disinfecting solution."

When these rules are properly carried out, the other inmates of the home, not showing evidences of disease, are not confined to the premises and the premises will not be placarded unless there is known violation of precautions.

On account of the prevalence of influenza in epidemic form in many parts of the country, an emergency is declared to exist and the rules are made immediately effective.

The shipment of bodies of soldiers dead of influenza to many sections of Illinois from the several military cantonments, has raised the question as to the holding of public funerals. Rule 7 of these rules and regulations provides that public funerals may be held in case the body has been properly embalmed or in case the body is in a hermetically sealed casket which is not to be opened in public. Funerals cannot be held, however, in infected premises.

ILLINOIS EXHIBIT AT THE AMERICAN PUBLIC HEALTH ASSOCIATION

The State Department of Public Health will show an interesting educational exhibit in connection with the meeting of the American Public Health Association to be held at the Morrison Hotel in Chicago, October 14 to 17. Each of the eleven divisions of the department will be represented and there will also be shown the mechanic exhibits, portable exhibits, posters and similar educational material which is available without cost to health officers, physicians, clubs and societies in the state.

TUBERCULOSIS CLINICS

The tuberculosis clinics, which are being held in different sections of the state as a part of the program to meet the wartime tuberculosis problem, are being largely attended and are attracting interest. This general program is being carried out by the State Department of Public Health, the Illinois Tuberculosis Association and the State Council of Defense working in close connection with the American Red Cross. The

clinics are held for the purpose of securing accurate diagnoses in the case of returned tuberculous soldiers, of whom there are now over 1,500 in the state, and for the purpose of increasing interest in the early diagnosis of the disease on the part of the medical profession.

Dr. Wilson Ruffin Abbott, of Springfield, Director of Medical Field Service for the Illinois Tuberculosis Association, has recently held clinics at Lewistown, Fulton County; Lincoln, Logan County; Murphysboro, Jackson County; Morris, Grundy County, and Joliet, Will County. Additional clinics will be held at Macomb, McDonough County, and Pittsfield and Griggsville, Pike County, in the near future.

In connection with the Mississippi Valley Conference on Tuberculosis, held in St. Louis October 2 to 4, special clinics for the examination of Illinois returned soldiers and for central and south central Illinois physicians were held under the direction of the Illinois Tuberculosis Association with clinical service given by Dr. O. W. McMichael, Asheville, N. C.; Dr. J. W. Pettit, Ottawa; Dr. George Thomas Palmer, Springfield; Dr. E. A. Gray, Chicago; Dr. Wilson Ruffin Abbott, Springfield, and Dr. Max Biesenthal, Chicago.

EXTENSION OF STATE VENEREAL DISEASE WORK

Dr. G. G. Taylor, Chief of the Division of Social Hygiene of the State Department of Public Health, has recently returned from an extended tour of eastern and western cities and military camps where he was assigned for the study of methods of handling the venereal disease problem of the military and civil population preparatory to the expansion of the venereal disease work in Illinois made possible by an appropriation of \$67,000.00 by the Federal Government for this purpose.

MEETING OF THE ILLINOIS TUBERCULOSIS ASSOCIATION

The annual meeting of the Illinois Tuberculosis Association, held at Springfield on Tuesday, September 17, was devoted to the practical consideration of the care of returned tuberculous soldiers, the campaigns for county tuberculosis sanatoria now being conducted in thirty-four Illinois counties and to the financing of tuberculosis war work in the state. At the annual election, Dr. George Thomas Palmer, of Springfield, was elected president for the ninth successive year. The other officers elected were: Vice-presidents, Dr. Ethan A. Gray, Chicago; Mr. Walter Porter, Mackinaw; Dr. H. S. Oyler, Lincoln; Dr. H. M. Hartman, Macomb; secretary, Dr. Jeannette C. Wallace, Peoria; treasurer, Mr. David R. Forgan, Chicago; members of the executive committee: Dr. E. W. Fiegenbaum, Edwardsville; Mrs. A. L. Adams, Jacksonville; Dr. N. C. Iknayan, Charleston; Mr. George W. Perkins, Chicago; Dr. J. W. Pettit, Ottawa, and Mrs. J. T. Mason, Aurora.

SUMMARY OF IMMEDIATE REPORTS

*August 1, 1918, to August 31, 1918*IN THE STATE OF ILLINOIS—INCLUDING
CHICAGO

Cerebrospinal fever	10
Chickenpox	103
Diarrhea and enteritis.....	1
Diphtheria	364
Diphtheria carriers	66
Erysipelas	25
German measles	6
Infantile paralysis	71
Measles	121
Mumps	34
Ophthalmia neonatorum	13
Puerperal fever	4
Pneumonia	68
Scarlet fever	118
Smallpox	49
Streptococcus sore throat.....	1
Tetanus	1
Trachoma	3
Tuberculosis	1,178
Paratyphoid fever	9
Typhoid fever	259
Whooping cough	775
All others	15
Chancroid	37
Gonorrhea	604
Syphilis	309

TUBERCULOSIS SURVEYS.

SYSTEMATIC CANVASSINGS OF THE COUNTRY ARE
THROWING MUCH LIGHT ON THE EXTENT
OF THE DISEASE.

The *American Review of Tuberculosis*, for June, comments editorially on the present interest in the discovery of unsuspected or concealed tuberculosis by systematic examination of large numbers of people. A survey in 1915-16 by the Michigan Health authorities showed 44 per cent of cases clinically tuberculous of potentially such among persons examined because of suspicious symptoms. At Framingham, Mass., the survey still in progress shows fifteen living cases to each death. The selective draft examinations show from 2 per cent to 6 per cent of cases.

Society Proceedings

MADISON COUNTY

Our July Meeting

The July meeting of the Madison County Medical Society was held at Highland, on the afternoon of July 5, 1918. It was an *al fresco* meeting held in

beautiful Highland Park adjacent to the city limits. The meeting was well attended, and proved to be one of the most interesting and enjoyable meetings ever held by this society.

President Dr. J. H. Siegel presided. Eighteen members and twenty-three visitors were present.

The community nurse, Miss Mitchell, was present and made the usual monthly report, which was placed on file.

After the privilege of the floor was extended to all visiting physicians, Dr. C. H. Neilson, of St. Louis, gave a very interesting address on "Hyperthyroidism" with special emphasis on border-line cases. He asserted that sometimes the diagnosis of exophthalmic goiter was extremely difficult and that many obscure cases brought to our attention were finally found to be diseased conditions of the thyroid gland, which would remain undiscovered unless a searching analysis was made.

Dr. C. T. Hempleman, of St. Louis, then read a paper on "Pyloric Stenosis," which contained a great deal of information valuable to those who are called upon to treat infants. The paper was full of valuable pointers to assist in arriving at a diagnosis and incidentally touched upon the matter of infant feeding. One of the points brought out by this paper was the fact that it was found that feeding infants at four hour intervals was now recognized as the best method, both in natural and artificial feeding. Both of these addresses caused quite an animated discussion, and the society extended a vote of thanks to both of our speakers.

After the program was ended we were invited to participate in a very substantial lunch, furnished by the local membership and which, it is needless to say, was enjoyed by all present, and for which a vote of thanks was extended.

The society then adjourned to meet at the Alton State Hospital on the first Friday in August.

Our August Meeting

Twenty-nine members and thirty-two visitors were present.

Collinsville was chosen as the place for our September meeting. Dr. R. D. Luster being called to the colors, presents his resignation as executive secretary of the Madison County Anti-Tuberculosis Association. Resignation accepted and vacancy filled by the election of Dr. E. C. Ferguson of Edwardsville. A letter from Dr. Geo. T. Palmer, president of the State Tuberculosis Society, was read, in which it was suggested that a survey of the county with reference to tuberculosis is made. On motion of Dr. Barnsback this survey was unanimously endorsed.

The community nurse, Miss Mitchell, made a report for the month of July, which was accepted and placed on file. Dr. R. S. Barnsback reported a meeting in Edwardsville on July 31, by Miss Osborne, of Chicago, on the subject of a tuberculosis sanitarium. After considerable discussion Mr. E. M. Sparks was elected as chairman of the campaign committee, to secure a

favorable vote at the November election. On motion the usual aid of \$15.00 a month was extended to three patients at the Harrison Tuberculosis Colony. Mr. Francis W. Shepardson, director of the Department of Registration and Education of Springfield, read a paper explaining the reason why an annual registration of physicians of the state would be beneficial and desirable. The paper was given marked attention and at its conclusion Dr. Barnsback moved that the society endorse the proposed annual registration which was unanimously carried. A vote of thanks was tendered the speaker and it was also ordered that a copy of this address be sent to the *ILLINOIS MEDICAL JOURNAL* for publication.

The superintendent of the hospital, Dr. George A. Zeller tendered elegant refreshments to the large company present and was given a hearty vote of thanks.

Dr. Zeller also extended an invitation to the society to hold meetings at the hospital at the pleasure of the society.

Adjourned to meet in Collinsville on the first Friday in September.

Our September Meeting

The Madison County Medical Society met in Collinsville on September 6, 1918, with President Dr. J. H. Siegel in the chair. Nineteen members and three visitors were present. Dr. N. C. Baumann, of Highland, was elected to membership.

The death of Dr. E. A. Cook, of Alton, was announced. On motion the Chair appointed Drs. Pfeifferberger, Davis and E. F. Fischer as a committee on resolutions.

Miss E. A. Mitchell presented a report of her work in the county, which was ordered filed.

Major W. H. Luedde, of St. Louis, made an address, calling for more enlistments and also explaining the purpose of the Volunteer Medical Service Corps. The matter of chairman of the Tuberculosis Sanitarium campaign was discussed with Prof. C. H. Dorris, of Callinsville, to whom the position of chairman was tendered.

Dr. Ralph W. Mills gave a lecture on Duodenal Ulcers, profusely illustrated with sliding pictures. This was a very interesting discourse and was highly appreciated by all present.

A vote of thanks was tendered to our speakers for their presence and for their instructive efforts in our behalf.

QUOTO COUNTY PICNIC

Who said chicken! Well, say, those members of Adams and Pike, Ill., and Marion and Pike, Mo., who did not attend the joint picnic of the above named counties September 15, given at the Sni Club House missed the time of their lives. The weather and the roads were ideal, couldn't possibly have been better, and the dinner, well, ask Dr. H. P. Beirne, councillor for the sixth district, he will tell you all about it, and believe me, he knows.

Our wives and sweethearts were there too, and we have invited them to come again next year, so you know their presence added much to the day's pleasure.

The trip was made in autos and by one o'clock nearly one hundred persons had assembled and were ready to partake of the tubfuls of the crisp, brown chicken, with the giblet gravy, celery, mashed potatoes, cabbage slaw, etc. Dr. H. P. Beirne was toast master and asked Rev. Father Meinert from Hannibal to offer the blessing. When the inner man was satisfied, the toastmaster introduced Dr. E. W. Fiegenbaum of Edwardsville, the president of the Illinois State Medical Society and founder and editor of the *Madison County Doctor*, the publication so well known to the medical profession; the Doctor had chosen a very appropriate subject, "The Medical Man and the War," and held the attention of the large audience for more than an hour. By his inspiring words, his thorough explanation of conditions, his enthusiasm and especially his faith in the loyalty of the medical profession, he won the admiration of all who heard him and each physician present felt he would willingly do what he could for his country, and that even then he was not doing enough.

Before leaving the dining room a rising vote of thanks was given to Dr. Feigenbaum.

It was voted to make the picnic an annual event, and the committee that served this year to serve again next year.

During the afternoon there were foot races, a tug of war, baseball game, fishing and boating.

As all things in this world must come to an end, so did this glorious day, and as each one said "good-bye" he remarked "hope to meet you here next year."

ELIZABETH B. BALL,
Secretary.

RANDOLPH COUNTY

Society met at Country Club, Sparta, on August 29. As members were late in arriving no meeting was held until after the delightfully satisfying dinner was served in the clubhouse by the ladies.

Ten members and three visitors were present: Report of committee on returning practice to each doctor serving in war, when they return to their former place of practice, reported as follows:

The county's war committee, consisting of the county medical auxiliary of Council of National Defense, shall protect as far as possible the practice of doctors who have gone to the front. This committee shall call upon any strange physician coming into a community to take up the practice abandoned by men going to the front, informing him that during the duration of the war he may remain there, if he so chooses, but that he will be asked to vacate when the war is over, providing the man whose practice he has taken cares to come back to his old location and practice. This report was adopted.

President Fritze was directed to get a service flag.

Following papers were read and discussed:

"Radical Cure of Diabetes Mellitus," Dr. L. C. McElwee, St. Louis.

"Pain, a Means of Diagnosis," Dr. B. J. Stevenson, Sparta.

"Tuberculosis Campaign for County Sanitarium," Dr. C. G. Smith, Red Bud.

On motion the society passed unanimously the following:

Resolved. That the Randolph County Medical Society most earnestly endorses the work of the State Medical Society and Illinois Tuberculosis Association and that each physician, at coming fall election, vote for and be a committee of one, to urge others to vote for a tuberculosis sanitarium for Randolph county, and that the secretary send a copy of this resolution to each paper in the county. A vote of thanks was given to ladies and Sparta physicians for their delightful dinner and entertainment and to Dr. L. C. McElwee for his paper.

Menard was chosen for September meeting, after which society adjourned.

A. E. FRITZE, President.

L. J. SMITH, Secretary.

ST. CLAIR COUNTY

The St. Clair County Medical Society met in regular session in the Chamber of Commerce rooms, Murphy building, East St. Louis, September 5, at 8:00 p. m., Walter Wilhemj, president, in the chair, and twenty-eight members present.

Minutes of August meeting approved as printed in the Bulletin.

Dr. Heeley of St. Libory was elected to membership.

Dr. Eugene Thompson, lately a lieutenant in the Officers Medical Reserve Corps, and stationed at Camp Dodge for several months, read a very interesting and instructive paper on "A Medical Officer's Duties in an Army Cantonment." This was discussed by several members, all being in agreement that it was a most entertaining and valuable paper, as it gave the most exact details of the daily life of the medical officer as actual experience presented it.

Dr. Campbell brought up the subject of the "Volunteer Medical Service Corps," and made a very patriotic appeal to the members, stating very earnestly his own willingness to serve anywhere the authorities might see fit to send him, whether in Podunk or Washington, France or Belgium. He stated that it was his opinion that none should hesitate to sign up for this service. His views were echoed by many of the members present.

Dr. Lillie called up the subject of the joint meeting with the Southern Illinois Medical Association in November and it was found that the committee chairmen were ready to carry on the work of preparation for it.

Society adjourned.

A. E. HANSING, Sec'y-Treas.

C. W. LILLIE, Assist. Sec'y.

Personals

Capt. H. D. Ryman, of Mt. Pulaski, is reported severely wounded in France.

Dr. Frank Duncan has removed from Paxton to Mt. Carmel on account of his health.

Maj. Carl E. Black, Jacksonville, has sailed for Greece as medical director of a thousand-bed hospital unit.

Dr. Chas. R. Lowe of Lincoln State School and Colony has reported at Camp Kearney, Linda Vista, Cal.

Dr. P. M. Miller of German Valley, Ill., has answered the call to the colors and has left for Ft. Oglethorpe, Ga., to serve his country.

Dr. Chas. F. Burkhardt, Effingham, was honorably discharged from military service, Sept. 19th, for disability incurred in the service.

Capt. Harry B. Roberts of Highland Park is overseas with the 325 F. A., 84 Division, A. E. F. This Division is called the Lincoln Division.

Dr. Albert E. Campbell, Chicago, has been appointed district health officer of Springfield. He was formerly surgeon to the Illinois Central Railroad.

Dr. Henry F. Lewis, Chicago, has resigned as professor and head of the Department of Obstetrics and Gynecology in the School of Medicine of Loyola University.

Major Edmund J. Doering, Medical Corps, U. S. Army, and President of the Board of Medical Examiners, has been promoted to the rank of Lieutenant Colonel, U. S. Army.

Miss Harriet Fulmer, supervisor of department of public health, Cook County, and founder of the Visiting Nurse Association, is going to France soon under the auspices of the American Tuberculosis commission.

Col. Frank Billings sailed recently for duty overseas to study problems of reconstruction surgery. He will probably return after a few months to supervise the work of his division in this country.

Drs. Mary M. S. Johnstone and Loretta K. Maher, Chicago, have been made contract surgeons of the United States Army, and have been

appointed on the staff of the emergency dispensary in Washington.

Dr. James E. Woelfle of Cairo has been appointed a member of the St. Louis Examining Board, O. R. C., and will conduct the examination of applicants for the Medical Reserve Corps, daily at his office in Cairo.

Drs. Leslie D. Dougherty and Benjamin Feltenstein, while proceeding in an ambulance to the relief of those injured in the recent bomb explosion at the Federal Building, were injured by a collision between the ambulance in which they were riding and a street car.

News Notes

The following Chicago physicians have been commissioned in the Medical Reserve Corps:

Majors—John L. Porter and Buell S. Rogers.

Captains—Geo. L. Alt, Chas. A. Albrecht, Lindsey Beaton, John F. Bresnahan, Jas. G. Carr, Chas. P. Horner, Oscar L. Hanson, Herman L. Kretschmer, Geo. U. Lipshulch, Carl M. Pohl, Geo. T. Smith, Wm. B. Whitaker, Seth Wicks and Joseph Zabokrtsky.

First Lieutenants—Chas. R. Benner, Lang F. Bowman, Benjamin F. Davis, John D. Ellis, Alex. H. Fink, Jas. M. Graybeal, Geo. Halperin, Herman J. Halvorsen, Halbert A. Haynes, John W. Kail, Roy R. Jamison, Diedrich Klemptner, Sigmund Mann, Harry W. Martin, Lawrence P. Piper, Thos. W. Rennie, Isadore Segall, Philip P. Shaffner, Harlan D. Sheldon, Herman M. Sondel and William H. Wimp.

Dr. H. H. Southwick of Springfield, Ill., has received appointment as Assistant Surgeon in the U. S. Navy.

The following Illinois physicians have been commissioned in the Medical Reserve Corps and have reported as indicated:

Regimental Surgeon—Carl Freund.

Overseas Medical Service—A. Franklin Turner, Rockford.

Major—Geo. W. Clark, Roseville, Houston, Texas.

Captains—C. S. Ambrose, Waukegan, Camp Custer; Gilbert Ayling, St. Anne; Fred W. Bryan, Bloomington; Earl G. Coverdale, Decatur; John Griffith, Galesburg; Fred L. Gourley, Waukegan, Ft. Oglethorpe; C. R. Lowe, Lincoln, Camp Kearney, Cal.; H. T. Morrison, Springfield, Camp Grant; Wm. C. Mitchell, Bradford, Ft. Oglethorpe; L. T. Rhoads, Lincoln, Ft. Oglethorpe; C. B. Riley, Galesburg, Ft. Oglethorpe; F. B. Schroeder, Princeton; R. L. Truitt, Naperville; Harry Wood, Batchtown, Ft. Oglethorpe; Chas. Yeck, Pleasant Plains; Dr. Yoden, Peru, Camp Custer; Ward E. Potter, Oak Park; Alfred H. Claboe, Waukegan; Peter T. Diamond, Evanston; Wm. B. McClure, Evanston.

First Lieutenants—R. B. Andrews, Belvidere, Camp

Custer, Mich.; J. L. Allen, Robinson, Camp Taylor, Ky.; H. W. Ackerman, Rockford, Ft. Oglethorpe; Edw. E. Bond, Stronghurst; Edmund J. Burke, LaSalle, Ft. Oglethorpe; Thos. E. Charles, Beardstown, Louisville, Ky.; F. E. Chase, St. Louis, Ft. Oglethorpe, Ga.; A. W. Christenson, Rockford, Camp Custer, Mich.; Walter L. Cottingham, Paxton; Frank C. Fink, Pleasant Plains; Edward R. Frisbie, Danville; H. L. Fisher, Kewanee; Robt. A. Hamilton, Hillsboro, Ft. Sheridan; J. R. Higgins, Gillespie, Camp Custer; Harry C. Houser, Westfield; F. D. Huber, Pleasant Plains, Ft. Riley, Kas.; J. P. Long, Ft. Oglethorpe; H. B. Martin, Grayville, Camp Taylor; W. E. G. Mays, Dawson, Ft. Sam Houston, Tex.; J. J. McIntosh, Mt. Carmel, Ft. Oglethorpe; L. H. Miller, Pana, Newport News; Lemuel P. Peters, Clayton; S. M. Pittman, Greenbush, Ft. Oglethorpe; L. B. Pitts, Decatur, Ft. Riley, Kas.; J. B. Roe, Oregon, Ft. Oglethorpe; C. R. Root, Ashton; Jas. B. Roberts, Kansas; Dr. Sarginson, Putnam, Georgia; Dr. Smeltzer, Aledo; Edmund P. Staff, Ramsey; Raymond C. Stenger, Kankakee; Jas. A. Sullivan, E. St. Louis; Theodore Thompson, Shelbyville, Ft. Oglethorpe; John L. Tombaugh, Odell; Gifford N. Welch, McKeesport; John Wickensimer, Steger, and R. H. Woods, LaSalle, Camp Grant.

Second Lieutenant—O. N. Hurdle, Mt. Sterling, Camp Shelby, Miss.

—Through an oversight the name of Dr. J. W. Osborne as an assistant medical examiner on Local Board No. 2, Champaign County, was omitted from Dr. C. B. Johnson's article appearing in the September number of the JOURNAL.

—At Camp Grant, September 20, an order was issued by Col. H. C. Hagadorn, camp commander, that all men with venereal disease will be quarantined in special camps, two of which have been provided for colored men and one for white men. There are said to be between 1,000 and 1,200 men afflicted with venereal disease in the camp. Practically all these cases are in recently inducted men.

—The Illinois Department of Public Health has discovered that in one county alone in 1917 more than 500 births were improperly reported to the county clerk instead of to the local registrars. The department has therefore written to every county clerk asking for immediate reporting of the stillbirths and deaths recorded in the county clerk's office from Jan. 1, 1917, to July 1, 1918.

—Dr. F. Zegsda, 78 years old, of 1404 West Forty-seventh street, was fined \$100 and costs by Judge Haas of the Municipal Court on a charge of practicing medicine without license in

his health institution, in which, it was alleged, he guaranteed to cure all ills. Dr. K. S. Ramashauski, 1718 South Halsted street, was fined \$50 and costs on the same charge, and the case of Mrs. W. M. Rybicka, 4634 South Ashland avenue, was continued.

—The Chicago Hospital College of Medicine, whose recognition as an institution in good standing was taken away by action of the Illinois State Board of Health, June 26, 1917, has instituted mandamus proceedings against Francis W. Shepardson, director, and other officers of the department of registration and education, with a view to compelling restoration to good standing. According to the last published report the college is not recognized by thirty-seven states.

—There will be enough nurses to care for the sick and wounded of America's army of 5,000,000 next year, according to a statement made in New York, Sept. 4, by Miss Adelaide Nutting, chairman of the committee on national defense. She said that, whereas Surgeon General Gorgas had called for 25,000 graduate nurses by next January, 27,000 already had been enrolled by the Red Cross and 16,000 of these actually inducted into military service.

—The Sangamon County Medical Society gave a farewell dinner at the Sangamon Club, July 29, in honor of Drs. John F. Deal, A. G. Aschauer, Charles L. Colby and Charles L. Patton, who have accepted commissions in the Medical Reserve Corps, U. S. Army, and have been ordered to active duty. Each of the guests of honor was presented with a remembrance from the society. The presentation speeches were made by Drs. George N. Kreider, Lewis C. Taylor and Frank P. Norbury, all of Springfield.

—September 6, two midwives were prosecuted before Judge Fry in the municipal court for failure to observe the requirements of the Act for the Prevention of Blindness from ophthalmia neonatorum. Both were convicted, and the minimum fine of \$10 was imposed in each case, as it was their first offense. A vigorous prosecution of midwives and physicians who do not observe the requirements of the law in the care of the eyes of the newly born has been begun by Attorney-General E. J. Brundage through his assistant, Charles E. Bartlett.

Marriages

PERRY H. WESSEL to Miss Vera May Cooper, both of Moline, Ill., September 4.

RACHEL WATKINS, Chicago, to Mr. Charles A. Long of Holdrege, Neb., August 8.

LIEUT. HENRY MARKS GOODYEAR, M. R. C., U. S. Army, Morton, Ill., to Miss Gertrude Elliott of Streator, Ill., September 4.

Deaths

JOHN MASSMAN, Chicago, Rush Medical College, 1867; aged 79; a veteran of the Civil war; died at his home August 12, from carcinoma of the stomach.

ALVARO C. DURKEE, Pontiac, Ill.; Rush Medical College, 1901; aged 47; a Fellow of the American Medical Association; died at his home July 23, from uremia.

JOSEPH WALLACE CALVERT, Bloomington, Ill.; Cleveland Homeopathic Medical College, 1896; aged 52; a member of the Illinois State Medical Society; died at his home August 16, from pneumonia.

EDWARD B. WESTON, Chicago; Rush Medical College, 1873; aged 72; for many years well known as a practitioner of Chicago, and head of the local archery association; died in the Home for Incurables, Chicago, September 14, from chronic intestinal nephritis.

LIEUT. FRANKLIN HENRY DORNBUSCH, M. C., U. S. Army, Chicago; Loyola University, Chicago, 1915; aged 28; a Fellow of the American Medical Association; on duty at Camp Gordon, Atlanta, Ga.; died at that place, September 3, from nephritis.

PETER BYRNES, Chicago; Jenner Medical College, Chicago, 1906; aged 58; formerly a member of the Illinois State Medical Society; at one time a member of the staff of St. Elizabeth's Hospital; died on a street car in Chicago, September 11, from cerebral hemorrhage.

LIEUT. SAMUEL BRODY LEISER, M. C., U. S. Army, Chicago; University of Illinois, Chicago, 1917; aged 26; a Fellow of the American Medical Association; who had been on duty at U. S. General Hospital No. 9, Lakewood, N. J., and was on leave in Chicago; died at the Presbyterian Hospital, September 16, from ulcerative colitis.

WILLIAM FRANCIS WAUGH, Chicago; Jefferson Medical College, 1871; aged 69; assistant surgeon, U. S. Navy, from 1873 to 1876; professor of principles and practice of medicine in the Medico-Chirurgical College of Philadelphia from 1880 to 1890, and in the Illinois College, Chicago, from 1894 to 1904; dean and professor of tropical medicine and therapeutics in Bennett Medical College, Chicago, from 1909 to 1913; author of several medical books; died in Chicago, September 5, from intestinal cancer.

ILLINOIS MEDICAL JOURNAL

THE OFFICIAL ORGAN OF

THE ILLINOIS STATE MEDICAL SOCIETY

VOL. XXXIV

CHICAGO, ILL., NOVEMBER, 1918

No. 5

Original Articles

THE DIAGNOSIS OF PULMONARY TUBERCULOSIS IN THE ARMY.*¹

R. S. BERGHIOFF, M. D.,

Captain M. C., U. S. Army

BASE HOSPITAL, CAMP GRANT, ILL.

The examining for tuberculosis of the tremendous army at present in the making presented at the outset a very serious problem. To begin with, the number of specialists trained for this rather technical work was small, and the volume of work was out of all proportion. Furthermore, the detection of the disease according to all our standards established in civilian practice called for a thorough, painstaking, and time consuming examination. Yet the experience of our Allied armies proved conclusively the desirability and even the necessity for such an examination. So that in the face of these difficulties the routine examination of recruit bodies was undertaken last summer, beginning with the various Officers' Training Schools. Here it was found that even though the men in these schools represented an unusually high standard physically, for sociological reasons—being in large part men of good circumstances, yet an appreciable amount of pulmonary tuberculosis was weeded out.

From the Officers' Training Schools the scope of the work was broadened to take in the National Guard. At this time it was plain that to handle this vastly greater problem many more examiners were needed. In consequence, the government established schools of instruction in tuberculosis for a limited number of surgeons. The purpose of these schools was not so much the instruction in the essentials of diagnosis of tuberculosis, for that knowledge was presupposed and demanded. The function of this course was rather to outline,

lay down, and define the type and the clinical picture of the disease as it was to be encountered, detected, and rejected from the army. It is obvious that some standard had to be established, defining the type and extent of tuberculosis which was to be considered subject for rejection.

Again the experience of the British and French armies was of tremendous value, demonstrating clearly as it did, that not only were the rigors of trench warfare not necessarily harmful, to a healed tuberculosis, but that the subjects actually benefited and made excellent fighting material.

It was therefore the aim of the U. S. Government to examine routinely the National Guard and subsequently the National Army, and eradicate so far as possible those types of tuberculosis which must break down under the stress of war, and at the same time retain those in whom the disease was of less serious consequence. To accomplish this purpose, definite instructions were sent out to tuberculosis examiners defining clearly the type of disease to be rejected. For all practical purposes the class of tuberculosis to be dismissed from the army falls under two distinct heads: (A) the manifestly active tuberculosis, and (B) the healed or quiescent tuberculosis of considerable extent. It is obvious that the first mentioned, the manifestly active type, must be eliminated, no matter what its extent or degree, provided the clinical picture is clear and unmistakable. The second type, however, the healed or quiescent lesion, needs limitation and standardization. To reject a slight apical healed focus, no matter how typical the signs and definite the diagnosis, is to rob the army of untold numbers of valuable men. Since the diagnosis of the first big class, the manifestly active type, forms not only the bulk of our work but also the type most difficult to detect and the greatest field for error, we will consider it in detail.

If we remember that active pulmonary tuber-

*Read before the Tuberculosis Section, 86th Division, June 13, 1918.

1. Publication approved. Board of Publications. W. G. Gentry, Lt. Col., M. C. N. A., Secretary.

culosis is a clinical entity, a disease, an infectious disease running a febrile course, with a definite symptomatology and giving rise to a well-defined pathology, and this in turn resulting in very definite findings, we will have learned the big lesson—the necessity of correlation of history, symptomatology and physical findings.

While this discussion must necessarily be superficial we will consider all three factors briefly.

History. In civilian practice, the phthisiotherapist has learned the value of a carefully taken history as an aid to the diagnosis of early tuberculosis. The army surgeon is in a large measure denied this help. In the first place, his time is limited so that only the very essentials can be elicited. Furthermore, the malingering element or the constant suspicion of it destroys the surgeon's confidence and allows him but little assurance on which to base his judgment. There is danger, too, because of this unconscious mental attitude on the part of the examiner to minimize or entirely disregard an apparently fictitious history, which is a mistake, of course, and should be avoided. The ideal tuberculosis man will elicit in cases which present a possible early tuberculosis a careful history, and with an open mind correlate it with the rest of the clinical picture. The volume of work and paucity of time will restrict the history to the most essential questions.

We are first of all interested to know whether the patient has ever had a frank open pulmonary tuberculosis; if so, how long since; and if possible, some idea as to its extent, that is, whether he was bed-ridden, a sanitarium patient, positive sputum, etc. The history of a hemorrhage and its size is important. In inquiring about a previous hemorrhage, we have all come to appreciate the futility of the question, "Have you ever spit up any blood?" If he is of draft age he undoubtedly has, and will tell you so, although without further questioning he will not explain that the expectorated blood came from his teeth, naso-pharynx, or a host of other inconsequential sources.

In my mind a safe question is, "Have you ever coughed up a mouthful or more of bright red blood?" A positive answer will then give us some gauge or standard to work from, and the red blood eliminates the so-called chunks of old stagnant blood and mucus often hacked from the naso-pharynx. In a case presenting a suspicious

picture a more thorough and augmented history will be justified and may include the following: Previous pneumonia or pneumonias, a positive answer pointing towards at least a weakness, and in the minds of many tuberculosis men a predilection towards the disease, frequent and protracted bronchitis having the same significance, plus the possibility of their having been a tuberculosis in the guise of a bronchitis. The significance of empyema and effusion pleuralis primitiva is of course apparent to everybody and deserves due consideration. In the matter of family history, the phthisiotherapist has changed his course and views materially in the past decade. He no longer believes in the heredity of the disease nor do many of us place much importance on a direct family predilection and predisposition.

A history of open active pulmonary tuberculosis in a family interests only because of the close contact it forces upon the uninfected members of the family, and the consequential danger of direct contact infection. To resume briefly, while history of disease loses a great part of its importance in the army, due to its forced brevity and frequent unauthenticity, it is essential in the early diagnosis of pulmonary tuberculosis to complete the clinical picture. Before passing from this phase of the subject, it might be as well to remark that no matter how positive the history of past or present trouble, in the absence of definite and well defined physical signs, or the absence of a clinical picture, we army tuberculosis men are not privileged to reject the applicant.

Symptomatology, or subjective signs, is so closely allied with history, that we might say a few words in passing. Here again in civilian practice we often acquire considerable aid and moral courage towards the diagnosis of an early tuberculosis from symptomatology. In our routine army examination, we are largely denied the privilege for the same reasons which governed history taking—scarcity of time and unauthenticity. And the same thing may be repeated here—the examiner should retain an open unbiased mind, neither too credulous nor yet entirely disregarding.

Complaints of dyspnea, loss of weight, emaciation, fever, can all be fairly easily verified. But the many more elusive symptoms which must be accepted on faith, such as anorexia, night

sweats, nervousness, insomnia, pectoral pain, hyperesthesias, night cough, etc., and infinitum, must be handled and classified judiciously. After all, the ultimate diagnosis of pulmonary tuberculosis which calls for rejection or acceptance hinges on—not the history, nor the symptomatology, but on the exposition of real pathology through the medium of physical findings. Because of the great personal element naturally coming into play in placing the value of such findings and thereby determining the presence, absence, or extent of trouble, the Surgeon General through Colonel Bushnel has set down a definite standard, in a large measure controlling the diagnosis the country over. We, the tuberculosis examiners, are told through our circulars of instruction, first—what types of tuberculosis must leave the army and, more important, what physical findings shall constitute and determine such types. In considering this, the most important phase of the subject as it concerns us in our diagnosis, we can conveniently divide the physical findings into two definite groups. (A) those findings which accompany or constitute an active pulmonary tuberculosis, and (B) those which make up the second great class of cases subject to rejection—the “healed lesion of considerable extent.” In considering first the physical findings of the first big class of cases, active pulmonary tuberculosis, it would be well to go into the pathology of the condition, but circumstances prevent in a paper of this nature.

The physical findings of active pulmonary tuberculosis can perhaps be expressed fairly well in the one word *Moisture*. The definition of the condition is in this case much more simple than the explanation. By moisture as detected by our physical senses, we mean the hearing on auscultation of adventitious vesicular sounds, crepitation, caused by the passage of air through an only partially expanded air vesicle, occluded or obstructed by secretions.

This is a very homely explanation, but it is difficult to describe accurately the moist râle—the criterion or one of the criteria on which our diagnosis is based. While it sounds orthodoxical to say that to understand the moist râle fully and clearly, it must be heard and heard repeatedly—it is unfortunately true. The moist râle then, is and diagnosis of an early—from an army standpoint—active pulmonary tuberculosis. However, a moist râle in itself without further exem-

plification is not sufficient. Perhaps the citation of its most typical occurrence will give us a better standard for comparison, and present a clearer picture. In the case of an apical lesion, the presence of a shower of fine moist râles beginning early in inspiration and rising in crescendo in deep inhalation, augmented or at least not dispersed by cough, forms the typical unmistakable finding, synonymous in our minds with open active pulmonary tuberculosis. If in addition the picture presents altered breath sounds in the shape of a prolonged high, expiratory note, or a typical blowing tubular breathing, plus dullness and retraction, and other signs of an old fibrotic involvement, our diagnosis of a reactivation of an old lesion is indisputable.

From this ideal, however, we are often forced to decide on grounds much less secure, so that we finally come back to the one set, required standard or condition—moisture, the presence of constant moist râles augmented or not dispersed by cough. In the case of an apical lesion, however, the moisture must have one more element before we are justified in considering it subject for rejection—extent. Moisture in itself is such a flexible indefinite affair that to have it unqualified and open to the big personal equation factor would surely result disastrously—result in the elimination in many cases of perfectly fit subjects from the army, and vice versa, the retention of recruits unfit for service. Consequently our instructions state, “moisture in an apex which extends below the clavicle shall be considered subject for rejection.”

If time permitted, this phase—the diagnosis of early active pulmonary tuberculosis from the physical signs—would surely prove a most attractive theme. The second large group of cases which call for disposition by acceptance or rejection, is the healed pulmonary tuberculosis. France in the early days of the big war learned a sad lesson. At a time when troops and man power were more precious perhaps than even at the present crisis, there were weeded out of her army thousands of men, discharged with the diagnosis of healed or quiescent tuberculosis. Further examination, and later experience, proved that untold numbers of them, from a military standpoint, our foremost physical sign in the determination were healthy men, fully able to stand the rigors of war, and if anything benefited personally by their routine outdoor life. Profiting from this

experience, Col. Bushnell laid down very definite rulings governing the disposition of cases of healed pulmonary tuberculosis, and as a result literally, thousands of young men will serve their country—able bodied men, excellent men, fit fighting material, in spite of their harboring a healed lesion, the remnants of a one time mildly active pulmonary tuberculosis. In the disposition of cases of healed tuberculosis, the proper correlation of history, symptomatology and physical findings is even more essential than the diagnosis of the other large group, the openly active pulmonary tuberculosis. For example, as stated previously, the persistent evidence of moisture of considerable extent in an apex even in the absence of a history renders the subject undesirable for service. In the healed subject, however, a complete correlation is often called for to determine the disposition.

A man of physique above the normal, with good expansion and development, with an absolute negative history and symptomatology, and in addition a high morale—by which I mean a keen desire for service—would, in my mind, and, I am sure, in the judgment of many other tuberculosis men, have to present physical evidences of very considerable extent to cause his elimination from the army. The small inconsequential healed lesion, as evidenced by localized fremitus, increase muscular and integument atrophy, dullness or flatness on percussion, tubular breathing, and all the earmarks of consolidation should not and is not sufficient evidence for rejection from the army.

In conclusion I wish to say that the past twelve months in the tuberculosis section of the army has convinced me that the greater error and danger by far lies in the too promiscuous and absolute unfair and unwarranted dismissal from the army of men with lesions healed and insignificant—men who would render their country as faithful a service as their more healthy neighbor, and at the same time profit physically themselves.

FURTHER OBJECTIONS TO COMPULSORY HEALTH INSURANCE.*†

EDWARD H. OCHSNER, B. S., M. D.,
Attending Surgeon, Augustana Hospital,
CHICAGO.

So far as I know, the first universal Compulsory Health Insurance Legislation that was en-

acted by any country went into effect in Germany thirty-five years ago and was the product of the fertile brain of Bismarck. He realized that something had to be done in order to stem the growing tide of socialism and it occurred to him that, by instituting compulsory health insurance and old age pensions, he could appease the proletariat and make them think that they were having a share in the government and that then they would hesitate to tear down a government in which they had a financial interest. That Bismarck was right, recent events have clearly demonstrated, for, if it had not been for old age pensions and other forms of social insurance, it is very doubtful whether the German socialists could have been driven into this war. Bismarck was a consistent, persistent and insistent monarchist, believing firmly that the monarchial form of government was the best form of government and was willing to go to any length to maintain the system which he considered best—and yet, the very system which ultimately brought about his own downfall.

In America, the movement for compulsory health insurance has an entirely different origin. A prominent eastern professor of political economy, some years ago, became the unfortunate victim of pulmonary tuberculosis. He soon discovered that the health of an individual was an important factor in his economic welfare, and that, while a study of such subjects as "Supply and Demand," "Wages and Capital," "Free Trade and Tariff," "The Distribution of Wealth," etc., is intensely interesting to the student and teacher of political economy and of benefit to the general public and essential to rational legislation, it is not nearly as important to the individual as is his own personal ability to work and earn a living. Like so many students of abstract subjects, he soon reached the conclusion that the evils resulting from ill health could be corrected by legisla-

†On Dec. 21, 1916, the West Side Branch of the Chicago Medical Society presented a program on "Social Insurance Legislation." Nine speakers participated in the discussion. Five were definitely in favor of compulsory health insurance, three expressed the opinion that it was bound to come and the best thing to do for the medical profession was to get the best terms they could. Of the nine speakers, the author of the above was the only one who opposed compulsory health insurance, and expressed his views more fully on the subject in a paper read before the North Side Branch of the Chicago Medical Society on Jan. 12, 1917, under the title "Some Objections to Health Insurance Legislation," published in the February, 1917, issue of THE ILLINOIS MEDICAL JOURNAL and simultaneously in the *Insurance Age*. This hastily written article had the desired effect. The medical profession of Illinois began to study the matter and when thinking men with practical experience began seriously to investigate this subject and check it up with their own practical experience they usually came to the conclusion that C. H. I. would be a serious mistake. This is illustrated by the actions taken by the Council of the Chicago Medical Society and the House of Delegates of the Illinois State Medical Society when they both went on record unanimously condemning C. H. I.

*Address delivered at the Seventy-Second Annual Meeting of the State Medical Society of Wisconsin, Milwaukee, Wis., Oct. 4, 1918.

tion. This gentleman was the chief mover in organizing the American Association for Labor Legislation, a group of estimable theorists, who conceived the idea of drafting a bill, and, if possible, securing its enactment into law in every state in the Union. The purpose of the proposed law was to compel every employe, whose earnings were less than one hundred dollars per month, to be insured against sickness. The bill, which was finally drafted and which by them was called the "Model Bill," had twelve important features:

1. Cash benefits, two-thirds of wages for twenty-six weeks only.
2. Free medical and surgical service.
3. Free nursing attendance.
4. Free medical and surgical supplies.
5. Free hospital service.
6. Cash benefit to dependents.
7. Funeral benefits.
8. Maternity benefits.
9. Free dental work.
10. Free medical treatment for dependents.
11. That it should be compulsory for all employes earning less than one hundred dollars per month.
12. That forty per cent. of the cost of this insurance be borne by the employer, forty per cent. by the employee and twenty per cent. by the state.

It is evident to anyone familiar with the practice of medicine that such a program would entail a fearful expense because we all know that when such things as medical service and medical supplies are rendered without expense to the recipient, great extravagance results. Anyone who is familiar with contract practice knows that the patients who can get free service are constantly running to the doctor, and if surgical supplies and medicine were free, they would be unnecessarily wasted. This is not theory, but the result of large experience. Every physician who has ever been engaged in contract practice with whom I have spoken, and I have interviewed many on this subject, has told me that where medical services are rendered free or at so much per annum, the patients are constantly running to the physician for medical advice and medicine; however, the most striking illustration in support of this statement can be found in a recent experience of the University of Wisconsin, which some years ago went into a modified form of contract practice. Each student, by paying a small fee each year, is given

medical care by the clinical staff of the university. At a hearing before the legislature of that state, at which I had occasion to appear, the dean of the medical school made the statement that, during the fall semester of 1915 the clinical staff made 17,000 calls and examinations on a student body of about 4,000. In other words, every student in that institution received medical attention on an average of $4\frac{1}{4}$ times during a period of sixteen weeks, or at the rate of $13\frac{3}{4}$ times a year—or for a family of four, which is a little below the Chicago average, at the rate of 55 times a year. When in addition we consider that this service was rendered to university students in the prime of life and health, it becomes evident that a clientele consisting of all ages would require a great deal more attention, for little babies, the aged, women during the child-bearing period and men in hazardous occupations certainly would require more medical attention than do university students; but, even if we figure only fifty calls a year at fifty cents a call, it would amount to twenty-five dollars per annum for medical services alone. If one of the ten benefits promised by the "Model Bill" amounts to at least \$25.00 per annum, per insured, it is evident that the ten will come very high. I doubt whether all of them could be rendered at \$100 per annum. However, for the sake of argument and in order to be more than fair, let us grant that \$60.00 would cover the expense per annum, per insured.

Professor Deibeler of Northwestern University, in a paper read before a subcommittee of the Illinois Committee on Social Legislation, estimated that in the State of Illinois, excluding farm laborers, there were employed at that time, eighteen months ago, 1,053,000 persons in gainful occupations in the industries of the state that received less than one hundred dollars per month. From this we have a right to conclude that it would cost at least sixty million dollars to operate a scheme of which, according to the Model Bill, twenty-four million would be paid into the treasury by the employers, twenty-four million by the employes and twelve million to be derived by taxation.

Personally, I do not think it would be fair to tax small tradesmen, shopkeepers or farmers to support such a system unless they are included in it. The small tradesman and shopkeeper is already finding it very difficult to make a decent living and practically impossible to acquire even

a moderate competence for old age, because of the increasing competition of mail order houses and large corporations. The average farmer and farmer's wife, particularly the renter, are the hardest worked citizens in the state. Practically all of these classes often go without medical aid because they cannot afford it and it certainly would not seem fair to take their hard earned income to provide medical services for others, when they themselves cannot afford it. So far as I know, all those in favor of compulsory health insurance have admitted that the system could not be maintained without state support. If this is true, there surely is here an insurmountable objection to the enactment of such legislation, for no law should be enacted which imposes an injustice on a very considerable percentage of citizens engaged in legitimate occupations.

A far-reaching innovation in our government, such as compulsory health insurance would be, must be viewed from many angles. We must consider its effect upon the general public, also its effect upon the individuals who come most directly under its influence, namely, the insured, the employer and the medical profession. The influence upon the former is, I am sure, bad, because it encourages him to run to the physician for every little ache and pain, as forcibly illustrated in the University of Wisconsin experience and the experience of practically every physician who has been engaged in contract practice. It unquestionably leads to the excessive consumption of drugs and the attempt, on the part of the insured, to substitute drugs for personal hygiene and right living. He who gets free medical advice and is paid for loss of time from sickness, is very much more likely to disregard the laws of health and to resent advice as to improvement in his mode of living than is he who has to pay for his medical advice out of his own pocket. I think practically every physician with a large experience will bear me out in this statement. This statement is further borne out by the experience with German health insurance where the loss of time from sickness has actually increased fifty per cent. since the health insurance law went into effect. In order to emphasize my point more forcibly, let me adduce some evidence from my own personal experience.

When I was a youngster, I worked two seasons as a lumberjack. The camp in which I lived contained between thirty-two and forty men. Of this

number one only did not use intoxicating liquor, two only did not use tobacco and only about half did not use liquor to excess or have vicious habits. About half of the men spent their hard-earned money either at the saloons in the nearby town or went regularly to the Island, or did both. Those of you who are familiar with the Islands in the Mississippi river need no explanation as to what they went there for. I should like to know how health insurance, insuring these men for loss of time and providing for them free medical care, would have prevented them from doing the very things which were the cause of much of their sickness. To the contrary, I believe that a larger percent would have gone to the Islands if they had felt that they would be protected against loss of time and would have free medical care if they became sick, and health insurance would actually have increased the percentage of immorality. Various motives control men's morals. Some, and not an inconsiderable percent, are moral because they are afraid to be immoral, because they fear that immorality will bring sickness and loss of income. Many a time I have been ridiculed for not going along with them. I have been taunted to come along and have a good time. It would certainly have been adding injury to insult if, in addition to these taunts, I would have been compelled by law to pay the men who did go for loss of time and for their medical care. I should like to ask some one to explain to me on what theory of justice those of us who lived clean moral lives should have been taxed to pay for loss of their time and for their doctor bills for illness very largely brought on by themselves. Take, for instance, a clean-living man and one of the other kind who on the average together will lose sixteen days a year by sickness, we are told. I firmly believe that the clean-living man will, as a rule, lose much less time than will the man with loose morals and bad personal habits. You may say that this illustration refers to an individual case. In answer I would say that the same conditions pertain in every lumber camp, mining camp and railroad camp and on many farms and in many factories. Possibly not at the rate of fifty-fifty, but certainly at the rate of twenty-five-seventy-five, and if it is wrong to make the clean-living fifty pay for the wrong doings of the vicious-living fifty, it is equally wrong for the clean-living seventy-five per cent. to be penalized to support and maintain and provide medical care for the

immoral twenty-five per cent. It is high time that in our legislative enactments we think more and more of encouraging the hard-working, honest citizen, and make it harder for the shiftless to find easy money.

One of the principal difficulties with our economic system today is that too large a percent of our population are non-producers, drones, yes, even human parasites. This scheme of health insurance would have a tendency to increase this undesirable class instead of decreasing it. The hard-working general practitioners would do all of the hard work for relatively very little pay. The political favorites would get the big salaries and hold down the easy jobs. The hard-working, self-respecting workman, who is too honest to pretend sickness unless he is really sick and too proud to take benefits unless he is absolutely sure that he is entitled to them, would pay tribute to the lazy and unscrupulous who are constantly trying to get out of work. This observation naturally brings us to the next objection to compulsory health insurance.

Free medical service and compensation for loss of time due to sickness, such as compulsory health insurance would provide, also has a strong tendency to increase malingering and to gratify the patients' desire for easy money. Some of these patients find it much more comfortable to feign sickness, to get free medical treatment, and two-thirds compensation, than to work. This statement is borne out by the experience of those engaged in contract practice, commercial insurance practice and mutual sick benefit practice, and still more forcibly emphasized by the experience of compulsory health insurance in Germany. Twenty-one years ago I spent six months as externe at the Neue Allgemeine Krankenhaus, in Hamburg, doing some work under the prominent surgeon, Professor Kuemmel. One morning, in making rounds, Professor Kuemmel told me personally that since the introduction of health insurance laws in Germany, malingering had increased tremendously among the patients. He said that a very considerable portion of his time was practically wasted in ferreting out malingerers. If this be true in a surgical service, how much more common it must be in a medical service where malingering is so much harder to detect. The fact is, in Germany, a voluminous literature has sprung up, telling in detail how malingerers of all kinds can be detected—all of which goes to

show that health insurance has a tendency to compel the honest, industrious worker to pay tribute to the lazy, shiftless and unscrupulous.

Let us now briefly consider the effect such legislation is likely to have upon the medical profession, for next to stability of government, honesty of administration and general intelligence of the people, the welfare of the nation depends more upon the quality of the medical service which is rendered than upon any one other thing. The longevity, health, efficiency and happiness of a people depends more upon the integrity, ability and industry of its medical profession than upon anything else. Anything that has a tendency to lower the standard of medical service does serious injury to the whole nation. If you are going to make the average medical man a mere drudge, robbing him of his independence, then overwork and underpay him, you are going to have a less and less efficient class of medical men, irrespective of the medical requirements, simply because the brighter men will refuse to go into a profession in which they are thus hampered. That this has actually happened in Germany, where compulsory health insurance has been in force longest, is very evident to anyone familiar with conditions there. It is a noteworthy fact that, in the last twenty years, only one thing of prime importance has come out of Germany and that purely a laboratory matter, namely, Salvarsan: Twenty-two years ago Lorens published his great work on the bloodless operation for congenital dislocation of the hip; twenty-three years ago Roentgen discovered the x-ray; about twenty-six years ago Biering and Roux brought out the diphtheria serum. Since then nothing of clinical importance, except Salvarsan, has come out of Germany. The reason is that the practice of medicine has been made so unremunerative and unattractive that a smaller and smaller number of really brilliant men enter the profession. Who is there now in Germany to take the place of the grand old clinical masters such as Billroth, Volkman, Langerbeck, Hebra, Kaposi, Schede, Koenig, Bergman, Van Graffe, Von Miquiliz, Nothnagel, Trendelenburg, Ohlshausen, Von Leyden, Senator, Israel and Neusser. The number of younger men of first magnitude today can be counted on the fingers of one hand. There is a reason for all this, and the reason can largely be found in compulsory health insurance laws, which have crushed independence and enthusiasm out of the medical

profession. These facts I know to be true for I studied two years in Germany and Austria, talked intimately with many of their medical men, among whom were some of the most prominent ones, and twenty-two years ago I, myself, acted as an assistant for a period of six weeks to a health insurance physician in Leipsig. I had a splendid opportunity to observe the practical workings of the system. My conclusion at that time was that either health insurance resulted in high cost to the insured, or underpay to the medical man, or inefficient service, or any two or three of these. I have had no reason to change my conclusion formed at that time. I worked in an ambulatory clinic for ear, nose and throat. The man I worked with was a splendid man, very conscientious and rendered good service to the patients, but he told me that in spite of the fact that he had a small outside private practice of which he took care in the afternoon, and in spite of the fact that he worked hard from four to five hours in the health insurance clinic every morning, he was scarcely able to make a living. The physician in charge was a man of splendid type with excellent education and an assistant in the University Medical School. In spite of these remarkable qualifications, with industry and zeal, at the age of forty, he was scarcely able to make a decent living for himself and wife and little child. If such conditions are established in this country, only men of means will study medicine, and then medical progress will surely cease.

In this country, at least, we suffer from still another serious difficulty and that is notoriously inefficient, more or less corrupt administration of government. It is a very serious question whether we have progressed far enough in civilization, far enough in the administration of our government to make it safe to venture into this new field. I am afraid it would be a dangerous weapon in the hands of our spoils politicians through the state machinery which would have to be established to run health insurance. It would give to them almost complete control of a large percent of the medical profession. The question naturally arises, "Who would have to administer health insurance laws, and have we now, or are we likely to secure suitable machinery for its administration?" Shall it be the state, the city or the county, and have any or all of these political subdivisions so conducted themselves, say, during the past twenty-five years, as to make us willing to entrust this

additional power to them? I have been a resident and citizen of Chicago for twenty-seven years and have watched things rather closely, politically. I am free to express the opinion that inefficiency and mismanagement have been the rule rather than the exception. The best one can say of the management of state institutions is that it is rarely, if ever, excellent, sometimes good, more often bad and still more often mediocre. Our county and city administration is usually worse. It is reported in the daily press that during the year 1917 eleven real estate experts received \$130,000 of Chicago taxpayer's money for part-time service appraising real estate. I am sure every physician would like a nice, fat job at \$10,000 to \$15,000 per year, spending three or four hours a day giving opinions and advice on medical subjects of various kinds. But there are a number of serious difficulties in the way: first, there would not be enough money to go around for all of us; second, not those best qualified, but those who have the most political pull would be almost sure to secure the most desirable positions and the rest of us would have to kowtow to these political appointees or go hungry. What kind of medical service do you think the citizens of Chicago would get if some favorite of Hinky Dink or the Bath House were to supervise their medical work and tell the physicians what they might and what they might not do? Until we have devised means to eliminate spoils politics, favoritism, pull, nepotism and graft from our political life, compulsory health insurance would be one of the most dangerous ventures which we could undertake.

When Rupert Blue coined the phrase, "The next great step is health insurance," he came about as near expressing the truth as catch phrases and epigrams usually do. If, instead, he had said, "The next step backward may be compulsory health insurance," he would have come very much nearer the truth. Or again the slogan, "The Health of the Individual Is a Community Problem," is only a half truth and hence more dangerous than a falsehood, because much more difficult to detect. Instead, it should be, "The Health of the Community Is a Community Problem, but the healing of the sick is a very personal matter." Most of the confusion which exists on this subject even in the minds of medical men today, is there because we have not kept clearly in mind the great fundamental difference

between preventive medicine on the one side and the care of the sick on the other. Preventive medicine should, in the main, be a government function because organized society, as expressed in government alone, can handle this phase of the medical problem. Preventive medicine is peculiarly suited to government control, while the care of the sick is entirely unsuited to it. The treatment of a sick person is a very personal matter and does not lend itself well to wholesale impersonal methods. To show how little some men employed by the government realize this distinction, permit me to give a concrete illustration by quoting a recent remark of a Chicago health inspector. This morning, April 13, 1918, a health inspector called on a desperately sick bronchopneumonia patient. In the presence of the sick man he pulled out a long list of names, patients whom he was to visit during the day, with the following remark: "Here are one hundred fifty names and addresses that I am supposed to visit today. Six were dead already when I called this morning. Sixty per cent. die." This was surely splendid encouragement and an excellent tonic for a man who was just on the brink. April 14. This morning the patient was dead. What part of the result was due to the health inspector's remark no one can tell. A private physician who would make such a senseless, brutal remark in the presence of his patient could not do much harm, because he would have few, if any, patients. While such an individual can do untold mischief when he once gets into the public service, because if he will obey the department rules, flatter his superiors, and regularly come across with campaign contributions, it is almost impossible to separate him from his job.

He who thinks that all there is to the practice of medicine and surgery is a knowledge of the action of drugs and a certain skill in the handling of surgical instruments is as far wrong as he who thinks that all that is worth while in life is money and what money will buy. The successful practice of medicine depends fully as much upon the personal human sympathy which exists between the physician and his patient as upon the scientific problems involved, and if you take away the former and commercialize and wholesaleize the practice of medicine, you will alienate from it a large proportion of the big, whole-souled, humane men who have made medicine what it is today.

Those who are so strongly in favor of health insurance legislation seem to be laboring under still another misapprehension. They seem to think that health insurance will either prevent poverty or cure the evils resulting from poverty. I feel, however, that it will do neither; that, in fact, health insurance would be only a palliative and like most palliatives, if persistently employed, will do more harm than good.

The present agitation for health insurance reminds me very forcibly of the medical experience with the hypodermic use of morphin. When the hypodermic use of morphin was first introduced, many laymen and even some physicians were very enthusiastic about it and felt that now a remedy for the banishment of all pain from the world had been discovered. Gallstones, for instance, had lost their terror temporarily because a simple injection would almost instantly still the pain. It took even physicians some time to realize that morphin was only a palliative, and if persisted in the patient was eventually actually made worse instead of better. In order to cure the patient, much more heroic means must be resorted to—the gallstones must actually be removed with the knife.

While pain and poverty will never be banished from the world, pain has already been greatly alleviated, because medicine has largely substituted prevention and cure for palliation. Are we going to make the same mistake in attempting to relieve poverty that we made in attempting to relieve pain? I hope not. I hope instead we will strike at the root of the evil, prevent most of it, cure a large percent of the remainder and palliate only that which cannot be prevented or cured.

The American laboring man does not want charity nor does he want his life regulated for him from the cradle to the grave. He wants an opportunity to work out his own salvation. He wants to be able to choose medical advice for himself and his children unhampered. Let us at least be consistent. If we believe in autocracy, let us have it. If we believe in socialism, let us have that, but, let us not attempt to graft a cross between autocracy and socialism upon our democratic institutions. I am a thorough believer in democracy and I believe that in a true democracy the individual is not only permitted, but encouraged to do that which he can do best, while the state undertakes to do that only which it can do best. Healing of the sick is a very personal matter and best accomplished by the individual. The state,

on the other hand, should devote its attention to public health and sanitation and general instruction in personal hygiene. In addition, it is the duty of the state to see to it that every medical man who possesses a license to practice is reasonably efficient and reasonably honest. Here the function of the state ends in a true democracy.

The burden of proof is clearly upon those who are in favor of Compulsory Health Insurance. To show that certain evils exist is not sufficient. They must be able to prove beyond a reasonable doubt that the remedy which they suggest will cure these evils and that it will not introduce new and even greater evils than those it is intended to remedy.

I agree that statistics, if carefully and conscientiously collected, do not necessarily lie and yet when it comes to the more subtle human relations, they rarely ever tell the whole truth. It is for this reason that I have brought out here so many of my own personal experiences, experiences which all speak against compulsory health insurance. This has made it necessary for me to leave out many of the arguments usually given against compulsory health insurance, such as the fact that it would not solve the problem of the pauper or the occasional worker, for no one, not even the most ardent supporters of compulsory health insurance has ever claimed that any clause could be incorporated which would solve this difficult problem. In fact, they are forced to admit that the burden of their care, which has heretofore been voluntarily borne by the physicians, would have to be assumed by the state at an expense which would run into the hundreds of thousands of dollars.

In conclusion, I firmly believe that to establish compulsory health insurance would be one of the most serious mistakes that any commonwealth could possibly make, because it would be bound to lower the quality of medical services rendered to its citizens, it would increase loss of working time from sickness, it would throw an enormous financial burden upon the taxpayer, the employer and the employe, it would greatly reduce the incentive to thrift and industry and put a premium on deception, sloth and shiftlessness, and compel the industrious, hard-working, clean-living workman to pay tribute to the untruthful, lazy, shiftless and immoral, and finally, it would have a tendency to take from independence and self-

reliance its proper pride and from dependency its salutary shame.

2155 Cleveland Ave.

THE ARMY MEDICAL CORPS*

E. J. DOERING, M. D.

Lt. Col., Medical Corps, U. S. Army

CHICAGO

Mr. President, Members of the Chicago Medical Society: Times have changed since I had the privilege of addressing you on this same subject six months ago. Then, the cursed Kaiser and his fiendish hordes of barbarians were seriously endangering the civilization and freedom of the entire world; today these professional cut-throats, bandits and ravishers are squealing for mercy and trembling at the approach of unrelenting justice, and the punishment which will be meted out to them for the unspeakable atrocities they have committed—the greatest criminals of *all* Ages!

Six months ago, we were sorely in need of more medical officers and appealed to you for help. Since then you have nobly responded and proved once more that there is no greater altruistic, noble and patriotic body of men than is found in the medical profession of the United States. In the Chicago office alone, for instance, aside from a large number of Reconstruction Aides, candidates for commission in the Ordnance Dept., etc., we have, in the last Quarter alone, from July 1 to Oct. 1, 1918, examined and passed physically and professionally 746 applicants for the Medical Corps of the Army. Chicago has furnished the greater percentage of these. No other section of the country has done as well, for which I both congratulate and thank you.

In this connection, I desire to express my sincere thanks to the officers of this society and especially to your secretary, Dr. McKechnie, in affording us great assistance in putting at our disposal much valuable space in the society's *Bulletin*. Also to the editors of the *Journal of the American Medical Association*, and THE ILLINOIS MEDICAL JOURNAL for their staunch and patriotic support of the needs of the Medical Department of the Army, which now has a personnel of over 30,000 medical officers.

Are the needs of the service any less? *NO, not by any means.* General Noble of the Surgeon

* Address read before the Chicago Medical Society, Oct. 9, 1918.

General's office, who has been in Chicago the past two weeks on business of the office in securing buildings suitable for the returning convalescent and disabled soldiers, wishes me to tell you that the needs for more medical officers are unlimited. The General, like all of us, believes that the enemy only wants a truce in order to reform his shattered divisions for a new offensive, and that the only plan is to go on recruiting for a large army of at least 5,000,000 men, with a corresponding number of army surgeons required, that is, 10 to each 1,000 soldiers.

It remains, therefore, the duty of every able-bodied physician to join the Army Medical Corps till peace is actually declared.

Every man from 21 to 45 ought to join. The necessary professional work at home can well be cared for by the older men, the teachers, the clinicians, and the large class of men who are physically unfit for army service. Conditions here do not even begin to compare with the scarcity of medical men in England, for example. In some cities in England, I am advised there is only *one* physician to 10,000 population. No one in this country is suffering from lack of medical attention.

Method of procedure to join the Medical Corps: (you may notice the Secretary of War has ordered the discontinuance of the word "Reserve"). All officers are appointed to the Medical Corps now, and not Med. Res. Corps. You will kindly fill out the regular application blank, have it sworn to, write an accompanying letter to the Surgeon General expressing your desire for a commission, on your own letter head, if possible, obtain at least two letters of recommendation preferably from physicians, or one from a physician and the other from a layman, and with your medical diploma and state license, or a letter from the secretary of the college stating the year that you graduated, and a copy of the license from the County Clerk, and you have completed the requirements. Present these papers any Monday, Wednesday or Friday morning at the Board rooms, 81 E. Madison St., at 10 o'clock, and pass the physical and professional examination. Tuesday and Thursday we examine applicants from the surrounding country towns. Women physicians, from 23 to 45 years of age, are accepted as contract surgeons with a salary of \$140.00 per month. Their duties

are the administration of anesthetics in the Base Hospitals.

To return to the Medical Corps: The physical examination is not quite as rigid as earlier in the war. We waive a good many points which formerly would prevent acceptance, and many men not entirely sound physically, are now recommended for limited service; that is, for service in Base Hospitals in this country only. Then after a period of from 4 to 6 weeks, the successful applicant receives a telegram from the Adjutant General of the Army advising him of his appointment, and at the same time directing him to proceed within ten to fifteen days from the receipt of the telegram, at Government expense to some training camp, where he remains until he has acquired the necessary military knowledge, usually a period of six to ten weeks. Then he is assigned to some Base Hospital over here and later re-required for overseas duty. Wherever possible an officer is assigned to that department in which he feels best qualified to serve. It is a remarkable fact, that of the several thousand physicians our Board has passed into the service, not one has uttered a single complaint. In the hundreds of letters I have received there is a unanimous expression of delight with army life, and many have voiced the wish that they might remain in the army permanently. On the other hand, a few officers who were let out of the service for one reason or another, have made life a burden to me, in their frantic endeavors to get back into it.

The compensation you no doubt are familiar with, but I will briefly repeat that no original appointments are made below the grade of first lieutenant, with salary of \$2,000 a year; Captains, \$2,400; Majors, \$3,000, with an increase of 10 per cent for foreign service. If married, or having children or dependent parents, an extra allowance is made, so-called commutation for quarters, light and fuel, at from \$40 to \$60 per month according to rank.

The necessary equipment can now be obtained at cost at the Government stores, in this city at 39th Street and Winchester Avenue, where the officer should apply as soon as he receives his telegram of appointment, which gives him ample time to get ready.

He pays his own travelling expenses, and receives in turn 7 cents a mile for every mile traveled, or he can apply to the Quartermaster De-

partment at 230 E. Ohio Street, and secure his transportation.

Much valuable information is contained in an admirable little booklet published by the American Medical Association, called, "Information Regarding Medical Service in the United States Army," a copy of which I would advise you to get. They are pleased to send it upon application.

The question is often asked, how long do I have to remain in active service? That depends, of course, on the duration of the war, and the length of time it will take our soldiers to return from France. The medical officers stationed in cantonments and Base Hospitals in this country will be, of course, the first ones placed on inactive duty and returned home, the officers stationed in France will come in sections accompanying troops, the last of them perhaps a year after peace is declared. Those in the Reconstruction Hospitals here or abroad will be the very last ones to return to civil life.

In conclusion, allow me to give you a message to the Chicago Medical Society from Major General Noble on the eve of his departure to France to take charge of the Medical Department of our armies abroad:

He writes: "I appreciate greatly your invitation to attend a meeting of the Chicago Medical Society on Wednesday evening. There is nothing that would give me more pleasure, but I am under orders to return to Washington immediately, and am leaving tonight.

"I regret sincerely that I cannot have the pleasure of being present at the meeting and being able personally to congratulate the physicians of Illinois and especially of Cook County for the magnificent manner in which they responded to the needs of the service. On the basis of population, Chicago has done better than any other section of the United States, and I feel confident that the members of the Chicago Medical Society will continue to answer their country's call in the future as nobly as they have done in the past."

DIAGNOSTIC SIGNS OF TUBERCULOSIS OF THE BRONCHIAL GLANDS.

WALTER B. METCALF, M. D.
CHICAGO.

Tuberculosis adenitis has several characteristics which are of interest. The local character of the disease is a prominent feature. This local char-

acter of the disease is, however, no longer looked upon as a localized expression of a diathesis, but as a distinct evidence of tuberculous infection. This local character of the disease is not accidental and calls one's attention to the common portals of entry—these portals bear a very definite relation to the bronchial gland infection.

The lymphatic system with its flow of lymph is very much more closely associated with tuberculous disease than is the arterial system. First, due to the direct connection with the portals of entry for the bacillus tuberculosis. Second, the lymphatic system as represented by its glands and lymphatic vessels, due to the abundance of adenoid tissue and the richness in lymphoid cells, seizes upon and renders innocuous entering tubercle bacilli: this is done at the cost to themselves of disease. The primary form of the disease in these glands is due to the fact that they act, in a measure, as a filter for the tubercle bacilli and those near the portal of entry do not allow the tubercle bacilli to reach the blood stream, or to even infect other groups of glands until they themselves have become diseased. In other words, the lymphatic system, as the defenders against invasion by the bacillus tuberculosis form more than one line of defense; the first line, or first group, situated closest to the portal of entry, try to hold the infection, and in so doing they do it at the cost of their own integrity. If the enemy penetrate this first line of defense the infection is interrupted in the next gland group and in this way tends to localize the infection, and it is upon this definite localization that we base our statement that the glandular disease is a distinct tuberculous infection.

Tuberculosis of the bronchial glands has its greatest importance in childhood as a primary disease and is rare after the age of puberty: with increasing age it becomes more rare, and in adults the glands are usually affected secondarily during the course of a chronic tuberculous disease.

The tuberculosis of children spreads by the lymphatic system; it begins in the lymphatic glands and upon the reaction of these glands depends chiefly its further development. In infancy the lymphatic system is the part which has relatively the greater power of resistance. In spite of this, it is not capable of withstanding the assaults of the tubercle bacilli. The tissue reaction is insufficient and the glands fail to arrest the bacilli: they spread through the lymphatic system, attack

other tissues and cause a rapid and often fatal ending. In older children the power of the lymphatic glands increases with the general resistance—the glands are better able to deal with the tubercle bacilli and to shut off infection from the rest of the body temporarily or permanently. About school age the resistance of the tissue still further slowly increases and about the time of puberty there develops a certain general power of resistance which enables them to withstand the tuberculous invasions; this limits the importance of the glands as the primary focus, and from this time on they no longer play the chief part.

It has been said that bronchial gland tuberculosis is usually present if there is tubercular disease in the body. This gives expression to the importance of these glands, and the need of making an early diagnosis of their infection.

There is no condition that so influences the development of the thorax as a tuberculous infection of the bronchial glands. This is brought about by their enlargement with the resulting pressure upon vital channels; in fact, the entire development of the child is markedly influenced by this tuberculous lymphadenitis. In well-marked cases the child may stop growing or be under-sized. We find these children with deformed chests, or under-developed. The so-called delicate and frail child is delicate and frail because of the tuberculous bronchial lymph nodes. We have in the hypertrophied pharyngeal tonsil a graphic illustration of the effect produced by obstruction, in the development of the child. Here we see the facial expression moulded, the contour of the bony structure changed, the mentality impaired.

The clinical picture of tuberculosis of the bronchial glands is by no means distinct and rarely is the entire symptom complex present and pointing to the diagnosis. The recognition of physical signs of disease of these glands is difficult, and often unsatisfactory, because of their situation deep within the chest. In the early stages there may be no physical signs, although the disease is active. In attempting to make a diagnosis, therefore, no line of investigation should be omitted and all possible information which might be of value obtained.

The history should be very carefully taken, and we must always keep in mind the insidious nature of the disease. The bacillus tuberculosis—the

Hun of the bacteria—invades the unsuspecting host, with all the cunning of his archetype and he too selects innocent children as his prey. Inquiry is to be made as to the existence of tuberculous disease in the parents or other members of the family, in intimate associates or previous occupants of the home. This is of great importance for the infected home is the great menace to the child. Details are to be secured about previous diseases, their duration and severity: ascertain if the child tires easily, or if there has been a change in its disposition.

The cough in tuberculosis of the bronchial nodes in children resembles that of pertussis. We may have dyspnea due to pressure on the vagus, or direct pressure upon the trachea or bronchi.

Asthmatic attacks in children should always lead to suspicion of bronchial node tuberculosis. There may be difficulty in swallowing: the spinalgia described by Petruschky is present with active inflammation. The temperature in general is changeful, but we must not place too much reliance on fever in children; the pulse may be rapid or irregular, due to pressure upon the vagus.

The appetite is lost or capricious, pallor of the face and mucous membrane is slow in its onset. These patients often show a marked aversion to fats; more or less digestive disturbances are frequent.

Inspection. These children are often tall for their age, or at least appear to be on account of the disproportion between the width and length of their chests: their long slender necks enhance the effect. The fingers are long and thin, the skin is apt to be dry and scale and relax—the hair is often soft, thick and luxurious, eyebrows well marked and lashes long and silky. The face is oval in outline, features delicate and pinched, the expression wistful, the eyes are bright and appealing and the sclera bluish-white. The pupils are often dilated, indicating pressure by the enlarged glands upon the sympathetic, and when of unequal size, the process is more active on the side, showing the greater dilatation.

Their posture in standing is relaxed and stooping, the scapulæ situated low down and projecting or prominent. The acromial end of the clavicle is sunken and the shoulders converge anteriorly. In older children there may be seen the so-called hilus dimple. A tracery of enlarged venules weaving across the chest is a common sign

of glandular pressure; this pressure may be so extensive as to cause cyanosis of the face or puffiness of the lips or eyelids.

On palpation we may find an increase in the vocal fremitus between the spine and the scapula, with no apical increase. There may also be tenderness on pressure, especially over the neighboring vertebra.

Dullness on percussion between the spine and the scapula which is separated by a zone of resonance from the usual apical dullness is a very significant sign. If there is increased parasternal dullness it is most marked in the second intercostal space. There is also noted a marked increase of the resistance under percussion over the usual area of hilus dullness.

To percuss the chest posteriorly, the patient should be seated upon a stool or table with the arms crossed over the chest to the opposite shoulder. The head is flexed forward to secure relaxation of the spinal muscles. I emphasize the fact that the percussion stroke must be light: a tapping stroke will elicit dullness which is imperceptible when greater force is used, by reason of the inclusion of resonant lung tissue within the percussion sphere.

With enlarged bronchial glands the impaired resonance may extend outwards two or three inches from the mid-line and may extend down to the sixth or eighth dorsal spine.

In adults, a dull note is normally present over the first four dorsal spines, and a distinct dullness below the fourth dorsal is abnormal and may indicate enlarged bronchial glands. It is much less common to obtain dullness from enlarged bronchial nodes anteriorly.

Auscultation is a valuable and a more trustworthy method of examination. As the bronchial glands become enlarged the vesicular quality may occasionally be replaced by bronchial breathing. It is heard more clearly posteriorly in the interscapular space and more often on the right. It is less high pitched and more metallic than the tubular breathing of consolidation, or cavity formation. Anteriorly, increased vocal resonance is normal over the manubrium with swollen glands anterior to the trachea and bronchi; whispered bronchophony is marked. Fine notes are sometimes heard external to the hilus in the region of the nipple, usually at the end of inspiration. They are not removed by cough or deep breathing.

Some years ago d'Espine called attention to

the fact that in children whispered bronchophony normally ceased at the level of the seventh cervical vertebra, but that in enlargement of the bronchial glands it extended downward to the upper thoracic spines. This observation has since been known as d'Espine's sign, and has proven to be a reliable factor in diagnosing the disease. It is best elicited when the arms are folded well across the chest, the head sharply flexed and the patient sitting erect. The examiner auscultates posteriorly over the course of the trachea and the patient is asked to whisper "three-thirty-three" or "one-two-three." Young children can be more readily induced to whisper "tree" or other familiar words. In positive cases the final "e" of the last word persists momentarily after the phonation ceases. This post phonal quality is the significant feature. The whispered voice gives more satisfactory results than the full voice. The respiratory murmur is the least reliable, but may give fair results in experienced hands in the case of infants who do not talk or cry. Loud transmission of the vocal resonance as heard over the normal lung does not constitute d'Espine's sign. The transmitted sound must have tracheal timbre. D'Espine's observations were made chiefly on infants and children. In older children and adults the bifurcation of the trachea is at a lower level than in the infant, and for this reason the bronchophony is of questionable significance unless heard at a lower level.

X-Ray. The use of the x-ray in the diagnosis of tuberculosis of the bronchial glands is of extreme value. Enlarged and pathological glands can often be demonstrated by this means when the symptoms are general and vague, and the local symptoms and physical signs are altogether wanting. The x-ray may show gland involvement when they have not reached sufficient size, because of their location, to cause cough, dyspnea or other pressure symptoms, and when they are too small to cause a d'Espine's sign or appreciable dullness.

In the examination of the chest by means of the x-ray we may use the fluoroscope, but the stereoscopic plates are always preferable since they show the shadows in perspective and enable the observer to appreciate the third dimension, and the depth of the lesion from the surface of the chest.

In the x-ray plate we have a permanent graphic record of the varying density of the tissue through which the rays have passed and they are

of value for further study or comparison. Normal bronchial glands do not cast a shadow. In early involvement the individual glands may not be seen, the only thing noted being an increase in the width of the lung root. When the glands become caseous they stand out more or less as shadow spots: calcified glands are sharply defined and easily recognized. When a large mass of nodes is present a distinct lobulated mass is to be seen. Shadows can be diagnosed as glands only when they are more or less homogenous and have well defined margins. The plate should be taken in an oblique position, the rays passing from behind on one side to the front on the other. In this way the spinal column and heart and great vessels will be seen separated by clear space, unless diseased glands are present in the mediastinum.

As has well been said, tuberculin is the most exact and finest reagent for proving the existence of a tuberculous deposit in the living organism. If there is to be any preferred field for the application of this significant assertion, I should say that it lay in the use of tuberculin as a diagnostic agent in tuberculosis of the bronchial glands. The cutaneous test of von Pirquet is one of the most extensively used, and is of special value in children, being easily performed and harmless. This test depends on the hypersensitiveness of the skin of the tuberculous person to the small amount of tuberculin taken up by the lymphatics. The test may be considered as specific in demonstrating hypersensitiveness due to the presence of a tuberculous focus. It does not, however, offer an accurate indication as to the state of activity of this focus, unless other factors are considered. The younger the child, the greater its value. In older children the subcutaneous test is of more value and should be generally used. The focal reaction, following a subcutaneous test, is of especial value in these cases in that the hyperemia caused at the focus of infection will increase the pressure symptoms, as manifest in the cough, dyspnea, pain, difficulty in swallowing, increased heart's action, as well as the general toxic manifestations.

Differential diagnosis must be made from other forms of mediastinal tumors. In general, this is based upon the history, the physical findings, the Roetgen rays and the tuberculin test. Syphilis can be recognized by the history of primary disease, the presence of other syphilitic symptoms,

serological examination and the result of treatment. Lymphatic leukemia causes painless swelling of the glands, the spleen is enlarged—fever not common. Blood examination clears up the diagnosis. Pseudoleukemia, or Hodgkin's disease, is rare in children—most commonly observed in adult males. Malignancy not common in children.

CANCER OF RECTUM (OPERATED ON THROUGH A VAGINAL INCISION.)

CHARLES J. DRUECK, M. D.

Professor of Diseases of Rectum, Chicago Hospital College of Medicine; Surgeon to Fort Dearborn Hospital; Rectal Surgeon to Peoples Hospital.

CHICAGO.

Cancer of the rectum below the level of the pelvic brim and above two inches from the anus is best removed by a combined abdominal and perineal operation as first performed by Czerny in 1884. Various modifications of the original technic have been described because our method of approach cannot be constant, but depends rather upon the extent of the disease, the involvement of other structures and organs, the patient's age, sex and physical condition. Sometimes it is possible to bring the proximal gut down through the sphincter and attach it to the skin, thus preserving the anus in its normal location, but such a procedure leads to the danger of leaving in situ intestine or lymphatics which contain particles of malignant disease.

In all cases where the rectal ampulla is involved, an exploratory abdominal section should be made through a liberal median incision. Where cancer is limited to the colon or movable sigmoid and is entirely surrounded by peritoneum, it may be lifted out of the abdominal wound and the bowel resected. This operation is quickly performed and causes no great mutilation of the tissues. But where the growth extends below the promontory of the sacrum, and is but partially covered with peritoneum, a complete removal through an abdominal incision is attended with many difficulties and mishaps and the combined abdominal-perineal operation is unquestionably the best. It permits a careful examination of the liver and the lymphatics for metastasis and by closely noting the extent of involvement of the rectum and contiguous organs determines definitely whether continuity of the bowel to the anal

region may be maintained or whether a permanent artificial anus shall be provided. This operation offers the patient the best chance of ultimate recovery and freedom from recurrence.



Fig. 1. Rectum resected above growth, and distal end inverted, peritoneum closed with drain through vagina. Colon end connected into abdominal anus.

Extension of the carcinoma beyond the walls of the rectum constitutes relative or absolute contraindications to hope of radical cure according to the extent of infiltration and also according to the structures invaded. Involvement of the glands of the meso-rectum is not a contraindication to operation as many of them are inflammatory. Involvement of the bladder is not an absolute contraindication if cystoscopic examination shows the mucosa to be normal. Involvement of the uterus and vagina is not a contraindication. The ureters may be involved as they pass through the pelvis and constitute a contraindication as does involvement of the prostate and also involvement of the sacrum.

With the perineal methods, even after the most complete and extensive removal possible whereby recurrence in the immediate vicinity is reduced, nevertheless new growths appear in situations beyond. Post-mortem examinations show that these recurrences are (a) in the pelvic peritoneum, (b) the pelvic mesocolon, and (c) the lymph nodes situated over the bifurcation of the common iliac artery. In all cases the infiltration of the parietal border of the pelvic mesocolon causes

shrinkage of the mesocolon itself, whereby the pelvic colon appears to be bound down, a condition which readily explains the difficulty in obtaining a satisfactory spur when performing colostomy in an advanced case of cancer of the rectum.

From these observations we learn that the above mentioned structures constitute the zone of the upward spread of cancer from the rectum, the removal of which is just as imperative as is the thorough clearance of the axilla in cases of cancer of the breast if freedom from recurrence is to be hoped for.

The study of the spread of cancer from the rectum has led me to formulate certain essentials in the technic of the operation which must be strictly adhered to if satisfactory results are to be obtained, namely, 1, that an abdominal anus is a necessity; 2, that the whole of the pelvic colon, with the exception of the part from which the colostomy is made, must be removed because its blood supply is contained in the zone of upward spread; 3, that the whole of the pelvic mesocolon

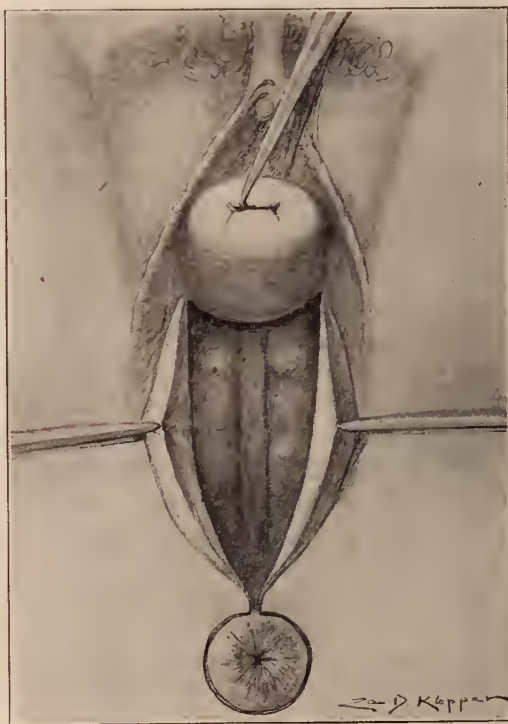


Fig. 2. Vaginal wall split, exposing rectum.

below the point where it crosses the common iliac artery, together with a strip of peritoneum at least an inch wide on either side of it, must be cleared away; 4, that the group of lymph nodes

situated over the bifurcation of the common iliac artery are in all instances to be removed; and lastly, 5, that the peritoneal portion of the operation should be carried out as widely as possible so that the lateral and downward zones of the spread may be effectively extirpated.

Excision of the Rectum is one of the most formidable operations in surgery, entailing, as it does, the removal of practically the whole of the pelvic colon as well as the rectum. The mortality, however, is much reduced by the two-step operation where at the first operation the abdomen is opened, the full extent of the disease determined by inspection and palpation and the toxemia relieved by an abdominal anus or a colostomy as best suits the future course of treatment.

Many of the above mentioned points of diagnosis and treatment are represented in the following case:

Case 1. Mrs. D., aged 48 years, has borne 8 children of whom 6 are living. The other 2 died in childhood. Menstruation was regular and normal up to 18 months ago, but none since then. About one year ago there

past six months she has lost blood from the anus. It comes in gushes without relation to her bowel movements and is sometimes so severe as to cause her to faint. Her former weight was 200 pounds. Weight

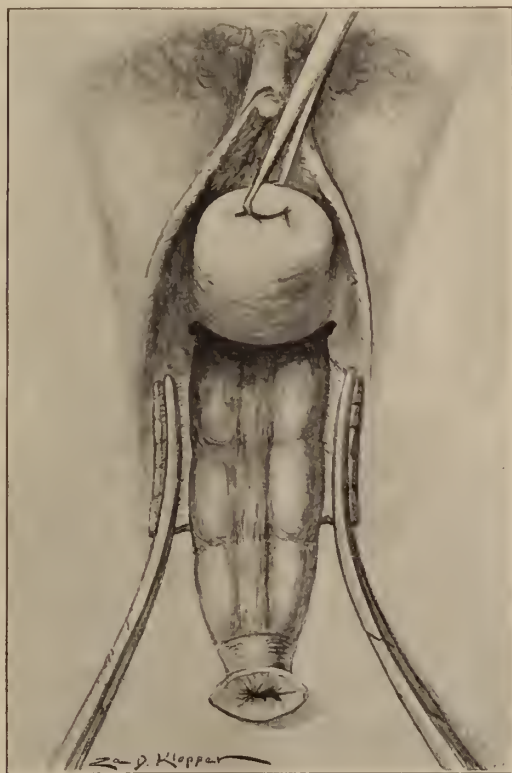


Fig. 3. Levator ani grasped on either side and cut free from rectum.

was a protrusion at the anus about the size of a lima bean (said to have been a hemorrhoid) which disappeared under treatment by her physician and has not reappeared. There is no protrusion now. For the

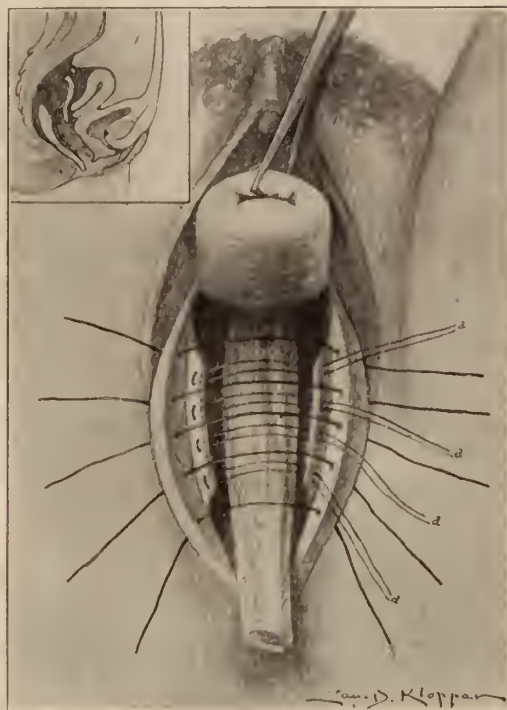


Fig. 4. Rectum removed, sutured and drains in place.

today is 163 pounds. She has had no formed bowel movements for the past two months, and lately has had only liquid stools obtained by the use of Epsom salts. There is a feeling of weight and a bruised or sore feeling in the rectum, but no definite pain. Our patient says she cannot have an evacuation without the use of cathartics which produce but a temporary flushing accompanied with much colic. She has abstained from eating rather than use the salines and has subsisted on toast, soup and tea for the past month. Inspection of the anus is negative; it is in its proper location, not retracted and presents no protrusion.

Digital Examination: 1. Rectal: The finger enters the rectum for about one and a half inches, when it comes in contact with an edematous fold of mucous membrane through which there is but a very small passage. The index finger cannot be introduced and the resistance is firm and hard. At the first touch the swollen mucous membrane feels like an intussusception, but the deeper feel of the mass behind is very different. The growth appears free from the sacrum, but attached to the uterus.

2. Vaginally: The tumor is easily defined, beginning two inches from the vulva and extending up behind the cervix. The vaginal mucous membrane is free from the tumor, but the uterus is fixed.

3. Bimanually an index finger in the rectum and a hand above the pubes determines the mass almost filling the pelvis. The x-ray photo showed a large mass in the rectum.

Advice to Patient. Our patient was told frankly that she had a cancer of the rectum which was occluding the lumen of the bowel. This latter fact she realized all to well and also that she was starving on the diet she allowed herself.

We suggested:

1. Exploratory laparotomy at which time the bowel would be opened and an abdominal anus or a temporary inguinal colostomy provided, depending upon the conditions found within the abdomen.

2. If at this operation it was thought feasible to remove the tumor later, that such a procedure would be recommended in two weeks when she would be stronger than at present.

Our patient accepted operation.

The abdomen was opened with a long median incision through the linea alba extending from below the umbilicus to close to the symphysis. A liberal opening is necessary to allow working space. The descending colon was palpated and found filled with hard fecal masses about the size of walnuts. No mesenteric glands were palpable and no evidence of cancer was found in the descending colon. The liver was also found smooth, of normal size and without metastasis, as was also the pylorus, all of which was encouraging. The patient was lifted into the Trendelenburg position, the small intestines packed back with laparotomy pads, bringing the pelvic contents into view, and the patient was then returned to the horizontal. This technic facilitates a clear view of the lower sigmoid and rectum as well as protects against unnecessary handling and encroachment of other parts of the intestines. The uterus was now lifted up by a traction suture of silk introduced near the left cornu, passed deeply through the body of the uterus and out near the right cornu. This sort of traction is much less traumatic than is the vulsellum held by an assistant. Following the bowel down to the pelvic floor it was found that the disease ended about one inch above the cul-de-sac. The mass was somewhat movable in the pelvis, although attached to the lower posterior wall of the uterus.

From these findings it was decided to excise the neoplasm, but because of its extent it did not seem possible to bring down the sigmoid and re-establish the anus at its normal location. An abdominal anus was, therefore, decided upon.

The object of, or the function of an abdominal anus and that of the inguinal colostomy are not to be confused. The abdominal anus is constructed as a permanent opening. A downward loop of the colon replaces the sigmoid and rectal ampulla as a receptacle for the accumulation of feces and the course of the bowel through the abdominal muscles provides sphincteric action. The colon is emptied twice each day by means of enemas and the evacuations are thus kept under control. The skin opening is cleaner and more easily cared for. The inguinal colostomy (a loop of

bowel being pulled through a stab wound low in the flank and then tacked to the skin and opened in 48 hours or less, according to the urgency of the case) is but a temporary opening for an emergency or to shut off the fecal current while plastic work is executed on the bowel below.

The permanent abdominal anus having been decided upon the laparotomy pad was carefully adjusted so that the pelvic structures were well exposed and every step of the operation brought plainly in view. For packing the bowels back we prefer one large pad the size of a small towel instead of several ordinary-sized laparotomy pads. The sigmoid was then lifted out and at a point 2 inches above the upper limit of the neoplasm the bowel was grasped with long clamps and divided with a cautery. The proximal (colon) end was covered with gauze and laid to one side. The distal (rectal) stump was carefully folded in and closed with a purse string suture and finally with a lembert suture. The superior hemorrhoidal artery was tied in two places and cut between and the mesorectum divided back to the sacrum. The peritoneum back of the rectum was next opened by blunt dissection and the mesocolon, together with an adjacent strip of peritoneum on either side of it, was detached from the hollow of the sacrum. By keeping close to the anterior sacral ligaments, the cellular tissue containing the lymph nodes in that situation was detached with the pelvic mesocolon in one piece. This separation was continued downward in the middle line until my hand was well behind the bowel and down to the levator ani muscle. The sacral wound was now filled with gauze while the peritoneum was separated from the body of the uterus beginning one inch above the upper limit of the neoplasm and with curved scissors carried down, taking part of the posterior wall of the uterus rather than encroach on the neoplasm. This anterior dissection was carried down to the cul-de-sac and an opening made into the vagina.

Attention was next paid to the separation of the lateral aspects of the rectum and it is here that great care must be exercised to avoid injuring the left ureter, which adheres closely to the peritoneum as it skirts the wall of the pelvis. When the ureter has been defined it should be carefully freed as far as the base of the bladder. On the right side the ureter need not be seen. The dissection was then carried downward on either side and the lateral ligaments of the rectum were divided with scissors. In these structures the middle hemorrhoidal arteries are found, but seldom require ligation. This lateral dissection was carried down to the upper surface of the levator ani. When the rectum had thus been freed on all sides as far as the points indicated, the whole mass was crowded down into the hollow of the sacrum and covered with gauze drain leading by a wick into the vagina. (Fig. 1.) The uterus was now drawn backward and the peritoneum closed over the gauze, thus reforming the pelvic diaphragm. This closing of the pelvic diaphragm at the first step operation is very important, because it makes the subsequent perineal removal of the rectum much easier and also lessens the shock,

Making the Abdominal Anus. We now return to the proximal stump and found that the sigmoid had a long mesentery, thereby lending itself to the formation of an abdominal anus. As mentioned above the descending colon was filled with large, hard fecal masses. Even in the transverse colon no soft or liquid feces could be felt. The field was well protected against contamination and by a milking process a number of these chunks were extruded into a vessel, thus emptying the descending colon and relieving the toxemia somewhat. The opening of the gut was then closed with a catgut purse string suture. An incision two inches long was made in the line of the fibers of the external oblique muscle one inch above and one and one-half inches inside the anterior superior spine of the ilium. The fibers of the external and internal oblique muscle were separated by blunt dissection (buttonholed). The wound was then held open with retractors and the transversalis and the peritoneum incised in the line of the skin incision. The stump of the sigmoid was drawn through this muscular ring until two inches of the bowel protruded. The bowel must pass through this ring without pinching. A bundle of fibers one-half inch wide was next separated from the upper lip of the external oblique and the gut drawn under this band and out again above it. A tunnel one and one-half inches long was made upward between the external oblique and the superficial fascia and a two-inch skin opening made at its upper limit. The bowel was drawn through the tunnel and out at the skin opening, where it was tacked to the skin margin. The lower flank incision and the median abdominal wound were now closed, sealed with collodion, and covered with rubber protective tissue which was sealed to the skin with chloroform to avoid infection later from escaping feces. The patient was then returned to her bed. Forty-eight hours later the purse string suture in the exposed end of the sigmoid was released and a Paul tube introduced and fastened in place with the purse string to keep it from slipping out. On the second day part of the retro-uterine gauze was removed and more on each succeeding day until on the fifth day all was removed.

Two weeks convalescence was allowed during which time intensive feeding was encouraged. The bowel was emptied and the toxemia relieved. The patient quickly rebounded from her depressed condition and was in an entirely more hopeful condition when excision of the rectum was recommended. She then received the usual preparations for a vaginal operation and was placed in the exaggerated lithotomy position (the hips slightly raised). A final examination was made under anesthesia and the tumor was easily mapped out per vagina. It began just above the internal sphincters and extended up behind the cervix, but was free from both the uterus and sacrum and was movable in the pelvis. The perineum and vagina were cleansed once more. The rectum below the neoplasm was swabbed with hydrogen peroxide dried with swabs, mopped with alcohol, again dried, and then filled with a gauze plug to occlude its lumen

and fill it out, thus facilitating the subsequent dissection. The Vagina was held widely open with broad retractors, the cervix held up with a vulsellum and the opening in the vaginal wall into the Douglas pouch was enlarged transversely. The posterior vaginal wall was then incised from the cervix to the fourchette and the incision carried across the perineum to within $\frac{1}{2}$ inch of the anus and a circular incision made around the anus. By blunt dissection laterally the vagina and perineal body were reflected from the diseased rectum. (Fig. 2.) As we reached the lateral borders of the rectum the levator ani and transverse perineal muscles were exposed and grasped with long forceps before cutting from the rectum. (Fig. 3.) These muscles contain the superficial and transverse perineal and the inferior hemorrhoidal arteries which will cause sharp hemorrhage unless seized before being cut. The number of these vessels is somewhat inconstant and instead of there being one inferior hemorrhoidal artery, two or three small vessels may arise from the internal pudic. Therefore active bleeders are to be looked for at all times and picked up as found. The small vessels and oozing are controlled by hot compresses held by the assistant. There need be very little loss of blood.

Beyond these muscles the dissection was quickly accomplished through the fatty tissues until the rectum lay wholly exposed except for its posterior attachments, the mesorectum and the rectococcygeus muscle. These attachments are firm and should be cut free with the scissors rather than torn away by blunt dissection, because tugging or dragging upon the sacral sympathetics increases the shock of the operation.

The rectum was now grasped in the left hand, the fingers working down behind sought the attachments and the curved scissors in the right hand clipped each as met; thus quickly cleaning out the hollow of the sacrum, taking with the mass all fat and lymphatics. By this technic the whole field of operation was always in sight, and the excision quickly, dextrously and completely accomplished. There is no dragging on the mesentery while trying to find an evasive brand that prevents prolapsing of the tumor. Traction on the mesentery while dissecting out the neoplasm causes much shock.

The tumor being removed, all active bleeders were ligated and the oozing controlled with a few hot compresses. Closure of the wound was affected with catgut sutures, uniting first the post cervical gap. When the levator ani muscle and the fascias were reached the clamps holding the muscles on either side were drawn together and the severed muscle united with mattress sutures of number 2 catgut. Below this level the wound was closed with deep sutures. Drainage was provided from Douglas pouch into the vagina and also from the hollow of the sacrum out at the perineum. (Fig. 4.) The excised mass was submitted to microscopical examination and reported as adenocarcinoma.

30 North Michigan Ave.

ON THE VALUE OF ACCURATE LOCALIZATION OF FOREIGN BODIES IN THE EYE.

JOHN R. HOFFMAN, M. D.,
WILMETTE, ILL.

To those of us who have had to deal with penetrating injuries of the eye in which there is a possibility of a retained foreign body, I think none will question the value of accurate localization of such foreign body.

My notes will deal with those foreign bodies which can be attracted by magnetism, as there can be no question as to the value of accurate localization of foreign bodies in the globe that are not magnetizable.

For some years after the introduction of the large magnet for the removal of magnetizable foreign bodies from the eye ball by Haab, many of us looked upon it as a sideroscope, sufficient for determining the presence of iron or steel in the eye.

The sideroscopic action, however, is limited to indicating that there is a magnetic foreign body in the eye, but unless it can attract that foreign body to the surface, it tells us nothing of its location, and the foreign body cannot be removed.

There are several reasons why the magnet does not locate the foreign body. We know that a magnetizable body can contain only a certain amount of magnetic force, and after saturation of a very small body, it may not be enough to respond to the pull of the magnetizing source. Thus it happens that very small bits of iron or steel which have penetrated to great depths into the eye ball will not respond to the pull of the large magnet.

A foreign body may be imbedded in the denser tissues of the eye ball; viz: ciliary body or sclera, and the magnetic force not sufficient to dislodge it.

It may be surrounded early by an exudate or if it has been in the eye for some days or longer, by a more or less organized capsule which prevents its dislodgment or even the eliciting of pain.

I myself held the view for some time that the means of location by X-ray was no better than by the magnet, but after an experience of over eighteen years (my first extraction having been done October 16, 1899), I must give way in a very large extent to the other view.

As many of you remember, Haab introduced the giant magnet into our armamentarium in 1898, having demonstrated its value for removing magnetizable bodies from the eye ball by pulling them up to the corneal or scleral coat, thus doing away with the necessity of introducing the tip of the magnet into the interior of the globe, and searching blindly for the foreign body (as is necessary with the small hand magnet), which usually resulted in the degeneration and atrophy of the globe and eventually enucleation.

It was not long before the magnet was introduced into this country, the first being brought to Chicago in 1899, and as we look back it is interesting to stop and think of the reception it received. Many were doubtful of its efficacy, feeling that the great force exerted would do great damage to the delicate structures of the eye ball, such as laceration of the ciliary body, breaking up of the delicate framework of the vitreous, or the attraction crossways of a very large splinter of steel, making it impossible of removal.

It was shown by Fisher, in his first paper before the Chicago Medical Society in 1899, that a long splinter would be polarized and present its long axis to the line of attraction and that small or moderate sized foreign bodies would be drawn through the zonula and thence into the anterior chamber. From these experiments and the reports of later work, rules were formulated which are of great value today.

Later he reported his statistics in 150 cases, which showed 49 cases with symptoms of metal in the eye, but negative results by the use of the magnet according to the technique as laid down by Haab. In four of these cases magnet examination negative, steel was found in the globe after enucleation. These might all have been removed had we at that time had means of accurate localization by X-ray.

We went on for several years satisfied that we were doing about all we could in the removal of iron and steel by using the magnet itself as our means of location and extraction, although many contended that all cases should be X-rayed first and an idea of the size and location of the foreign body gotten before attempting removal.

Our attention was called to the accurate localization by X-ray, however, by several workers, each setting forth a different method, but that

of Sweet has probably stood the best test of all.

Dr. Clement presented his paper before the Chicago Ophthalmological Society during 1916, in which it was clearly shown that the method was of great value.

The classical operation of Haab is applicable to, and in all probability will result successfully in the greater percentage of cases, and for that reason appealed to many operators as being the technique of first resort in all cases.

With the elaboration of localizing technique, however, I believe one must consider each case on its own merits, and I know of no better way to formulate rules of procedure, then, that we all should report such cases as will show the value of any one method.

Since 1916 when my attention was first strongly called to accurate localization of foreign bodies in the eye ball, I have had some fourteen extractions; among them four cases stand out prominently as illustrating the value of the method. They are as follows, viz:

Case 1. E. K. Farmer. Came for treatment March 16, 1916, referred by Dr. C. W. Geiger, having been struck in the eye by a chip of steel. It had entered through the cornea and zonule, so it was thought it could be readily extracted by the corneal route.

The magnet gave a reaction (pulling sensation with pain) over the upper part of the eye ball back of the ciliary body, but at no decided point. He was sent for localization, the rentgenologist, Dr. Hale P. Wells, reported the foreign body to be 23 MM. back of the cornea in the median line, and under the sclera above. Incision through the conjunctiva and sclera, a little to the nasal side of the superior rectus muscle was made, as the muscle lay over the point of location, and an attempt was made to extract with the magnet, but failed. He was returned to the x-ray man who reported that the foreign body had moved forward to the ciliary body, to the nasal side of the median line. A second incision was made and the foreign body attracted by the magnet. Had the incision been made more accurately at the point of location, the foreign body would probably have been removed on the first application. As it was, it slid past the opening in the sclera and became imbedded in the ciliary body. June 5, 1917, Dr. Geiger reported 15/20 vision in this eye.

Case 2. L. M. Aged 8 years. While playing with two hammers and striking them together, a chip of steel entered the left eye, passing through the cornea and lens in the upper outer quadrant, rendering the lens opaque. I saw him first in my clinic at the Chicago Eye, Ear, Nose and Throat College four days after the accident. The lens being opaque I tried the usual method of placing the magnet tip at the center of the cornea, with the idea of pulling the foreign body back into the anterior chamber, but after several

attempts failed to get any reaction. I told the father we would have to have an x-ray examination to determine whether or not there was a foreign body in the eye, and if so its location. He consented and I referred him to Dr. Wells, who located a foreign body 2 MM. long, .05 MM. wide and thick, 3 MM. to the nasal side and .05 MM. below the optic disc in the posterior coats of the eye ball.

The problem then was how to get an incision and the magnet tip back to this location, as, profiting by the former case, I wanted to be as accurate in the point location as possible. To get full rotation of the eyeball outward, I cut the internal rectus muscle at its insertion, passed a suture through the stump of the insertion and by traction temporally everted the eyeball to its fullest extent, making it possible to get a scleral incision nearly to the optic nerve trunk. Incision through conjunctiva which was retracted by sutures passed through the wound edges, sclera incised radially $\frac{1}{8}$ inch long through the sclera only, down to the choroid, applied magnet tip to wound and readily extracted the steel fragment of the above measurements.

Case 3. F. A. March 27, 1917. Came for penetrating injury right eye by chip of steel.

Examination showed an area which was highly hyperemic below the cornea, which indicated it might be the location of the wound of entrance. Application of magnet tip to this area, however, elicited pain, but no sign of bulging of sclera.

After several negative attempts to attract the foreign body by the magnet, patient was sent to Dr. Wells for localization. He located a foreign body 1x1x.05 MM. in size, 5 MM. back of center of cornea, 5 MM. below horizontal plane and 3 MM. to temporal side of vertical plane. This located the foreign body below in the temporal side of the ciliary body just external to the inferior rectus muscle.

After incising the conjunctiva below and external to the inferior rectus muscle, retracting flaps of same by suture, incised sclera at this point down to ciliary body, applied magnet tip to wound, extracted steel.

Case 4. O. B. March 17, 1918. Reference by Dr. Julien. Struck in left eye by foreign body while driving nail. Examination showed small scar of penetrating injury of cornea over lower border of pupil, an area of opacity in upper temporal quadrant of lens.

Magnet tip applied to center of cornea but with no response. All maneuvers devised to get response to magnet tried, even to incising cornea and placing magnet tip against the anterior capsule of the lens, but without result.

Sent to Dr. Wells who located a foreign body 0.5x0.5 MM. in size, 15 MM. back of center of cornea, 4.5 MM. below horizontal plane and 5 MM. to temporal side of vertical plane.

Eye was rotated strongly to the nasal side, incision made between external and inferior rectus muscles back of the equator, through conjunctiva, the flaps of which were held apart with sutures, sclera incised $\frac{1}{8}$ inch radially, magnet tip applied to wound and steel extracted.

Case 1 shows the necessity of getting accurately at point of location and that the magnet tip be applied perpendicularly to the wound, as if applied in a slanting direction the foreign body is liable to slip past the opening in the sclera.

Case 2 seems to illustrate the group of cases where the foreign body was so far away from the source of magnetism that it could not attract it through the long field.

Case 3 illustrates those cases in which the foreign body was so firmly imbedded in the denser tissues of the eye ball, in this case the ciliary body, that the magnetic force was not enough to pull it to the sclera.

Case 4 seems to me to illustrate those cases in which the foreign body, although not greatly distant from the corneal surface, yet does not absorb enough magnetic force, because of its small size to react to the source of attraction.

For the technique of removal of foreign bodies from the eye, I refer you to the splendid paper of Dr. H. W. Woodruff, "Treatment of Penetrating Injuries to the Eyeball," read before this section at the 1916 meeting of the Illinois State Medical Society held in Champaign, in which he reported some very interesting cases and formulated some very excellent rules for procedure in such cases.

My own conclusions are as follows: First; in all cases presenting with penetrating injury of the eye ball, and the possibility of a retained foreign body with injury to the lens, try the magnet by the classical (Haab) method; failing of response, the application of different maneuvers such as sudden interruptions of the current to produce a to and fro action of the magnetic force, which may dislodge the foreign body from its resting place; incision of the cornea and application of magnet tip against anterior capsule of lens. These failing, localization by x-ray and removal if possible through incision over point of location.

Second; in all cases where penetrating body has entered eye ball without injuring the lens, localization first by all means, unless magnet gives indications of location close to surface of eyeball outside of lens area, extract at that point through incision of external coats.

A purely scientific procedure would unquestionably be accurate localization first, but as the patient in most cases cannot, and employing firms or casualty insurance companies will not stand

the expense of localization unless absolutely necessary, we are compelled to use the magnet in most cases before anything else.

The cases reported above seem to me to show beyond a doubt that unless the clinical evidence is clear, that the penetrating body is of small size and has rendered the lens opaque completely or so much so that it will become so finally, no attempt should be made to draw it into the anterior chamber until its location and size is determined by a careful and expert X-ray examination. Then our best judgment can be used as to the best route for its extraction.

DISCUSSION

DR. FAITH (abstract) advised sending all x-ray work to the same man, the patient to pay a good fee, if he can afford it. Then when you want a favor the x-ray man will localize or do anything you ask him to do. The National X-ray Laboratory, Pease & Hillweg, in the Marshall Field building, Chicago, is doing this localization for ten dollars, and if you ask them to do it for less, they will do it for less. He feared putting a magnet in the center of the cornea lest it dislodge a foreign body and relodge it in a very vital area.

DR. SEALY (Woodstock) described the case of a young man who had been struck by a piece of flying metal which passed through the lower inner quadrant of the sclera. The patient had a hypophoria two or three days after this occurred. After dilating the pupil, by looking down could be seen what seemed to be a granular looking object surrounded with exudate, and apparently it would be a simple matter to draw forward into the anterior chamber and extract it.

Having no giant magnet he tried a very powerful improvised magnet available in the manufacturing plant. Neither that nor the giant magnet used later secured any response. Later the patient was taken to the infirmary and x-ray pictures were made which revealed no foreign body.

There was no question that a foreign body entered the eye but the x-ray didn't show it. Having the x-ray first would have saved some trouble.

DR. GOLDENBURG described a peculiar case that came for a refraction, with a history of finding, due to a piece of steel penetrating the eye six or ten years previous to that time. A scar in the cornea was plainly visible. The pieces of steel was located on the anterior surface of the iris and you could see the discoloration of the steel due to the heat that it had been through previous to entering the eyeball. The doctor insisted that that should be removed, but the patient said it had been there so many years and he was quite satisfied to allow it to remain. He saw the man about three or four years later and could not find that piece of steel.

DR. HOLLINGER noted that there is nothing new in this discovery; that these things were discussed

more than twelve years ago. For example: A needle in the elbow was seen with the x-ray completely and clearly. The incision was made and the needle was not found. Another picture was taken and the needle was seen absolutely clearly. A second operation revealed nothing, but they took tissues from the fascia in the neighborhood and examined them under the microscope and microchemically and they found that the needle had been dissolved. There were simply the iron salts left, and they hardly colored the fascia to such an extent that it could be seen on account of the blood at the time. These are facts that have been shown many times, pieces of steel are dissolved and the iron salts which are left give a shadow in the picture.

DR. HOFFMAN: I can't add anything to this, except that I want to call attention to the fact that these were all made by the Sweet method. The other night I was talking with some Mackintosh people, and they tell me that there has been an instrument devised which is going to simplify this matter so anybody can make his own localization.

PROSTATECTOMY.*

FLOYD STEWART, M. D.
ST. LOUIS, MO.

The title of this paper should be more explicit for it is not the technic of the operation to which I wish to call your attention, but to the pre-operative and post-operative treatment.

To obtain the greatest success in operating for hypertrophy of the prostate more attention must be paid to the preliminary and after-treatment for on both does the success or failure of the operation depend. Many a surgeon can enucleate the gland, but failure to have prepared his patient properly leads to a stormy, dangerous, post-operative period, if not death of the patient—the post-operative period is prolonged—convalescence is retarded and the return of the patient to an active life is delayed much longer than is required. A careful study of each individual case is imperative.

There is nothing gained by hurrying. True, some cases demand immediate relief of one nature or another, such as preliminary drainage; but in the large majority treatment can be instituted much to the satisfaction of the patient and an aid to the surgeon. I remember a statement made by an eminent surgeon that he lost one of his cases by being hasty, as the patient looked healthy and strong, but as one of his assistants

said, "This man should not have been operated upon at this time."

Too many surgeons overlook the importance of preliminary treatment, contenting themselves with making the diagnosis, rushing the patient to the hospital—operating only to find out too late that he had made a grave mistake, much to his late regret and the sorrow of the family.

In undertaking to treat a case of hypertrophy of the prostate, whereas you may believe in preliminary treatment, do not leave such treatment to a nurse or interne—look after the details yourself, check up your findings, use all the methods to assist you in determining whether or not this patient is a good surgical risk. Rather have it said, if anything goes wrong, that you used every safeguard before submitting your patient to operation.

The success of your case depends upon a careful examination of your patient. Your mortality is sure to be high if you overlook or neglect to determine the condition of your patient prior to operation.

Therefore, systematic careful preparatory treatment is essential to success, after it has been determined that your patient is suffering from enlarged prostate.

Make a thorough systematic examination of his bladder, kidneys, heart, lungs and vascular system.

Determine first the amount of residual urine, condition of the urine, chemical analysis of same, particularly if it contains blood, pus, etc.

Condition of the bladder wall.

Size—opening of the ureters; also if stones are present.

The amount of residual urine can easily be calculated by passing a catheter, measuring the amount of urine.

The 24-hour quantity of urine should be taken.

If possible, which it is not in every case, a cystoscopic examination with catheterizing the ureters must be made. A small bladder, little residual urine—high in specific gravity, loaded with pus—24-hour quantity low—with highly inflamed bladder—this examination will be impossible.

Inflamed mucosa is indicative of faulty renal functions, highly concentrated urine and great infection.

To correct such a condition, wash out the bladder, order the drinking of large amounts of water,

*Read before the Southern Illinois Medical Association, November 2, 1917.

give hexamethylamin 5 to 10 grains, four times a day, correct the diet with large amounts of green vegetables, perfecting the elimination through the bowels and skin. Wash the bladder out at least once a day, beginning with boric acid solution and then using nitrate of silver, increasing the strength as rapidly as patient can stand it, either leaving a small amount of the solution in the bladder or instil 10 per cent. solution of argyrol. It is my rule to give hexamethylamin for 2 or 3 days before beginning the bladder irrigation.

The opposite condition—a large amount of residual urine with little or no infection, pale bladder wall distended beyond normal limits—neither of these conditions indicates good surgical risk, but on the contrary, indicates danger from a surgical standpoint unless preliminary treatment is given to guard against renal impairment—acute uremia and ascending infection—damage from relieving the back pressure too quickly.

This condition is controlled by indwelling catheter, but if the amount of residual urine is very large, do not withdraw too much at one time as the damage due to relieving the back pressure may cause serious consequences. What I stated regarding diet and elimination must be carried out.

Do not leave the catheter in place too long and, of course, no catheter is used if an active inflammation of the urethra or epididymitis is present.

It must be remembered that abnormalities are the rule in these cases and that ideal physical condition is the exception.

After the bladder, the kidneys should be carefully and intelligently examined.

To determine the condition of the kidneys, the 24-hour quantity must be taken, the urine from each kidney collected, that is, provided it is possible to do so, which it is not in a small number of cases.

After the urine has been collected from each kidney, they are then tested with phenolsulphonphthalein and this test must be repeated at varying intervals, depending upon the result of the examination, but it is not always imperative to use the ureteral catheters.

The test is applied as follows:

Geraghty and Rowntree states: The test is made by emptying the patient's bladder completely and 1 c.c. of the standard solution of the drug injected into the muscles of the back.

At the end of one hour the entire contents of the bladder should be carefully collected, and the amount of the drug secreted accurately estimated by a colorimeter. Again, at the end of the second hour, another such collection and similar examination should be made.

As to the value of the phenolsulphonphthalein test, the phthalein test has given valuable information in all these cases and has enabled us to differentiate those cases with severe renal damage from those in which the renal involvement is slight. As a rule, the test has demonstrated the greatest impairment of function in those cases which have large residual urine and have not been leading a catheter life. Clinically, this type of case is recognized as the most dangerous when operation is undertaken without preliminary treatment. In many instances in which the output of the drug was low when the patient was first seen, the adequate régime described above has resulted in a decided improvement of the kidney function as indicated by the test.

When the time of appearance is delayed beyond twenty-five minutes and the output of the drug is below 20 per cent. for the first hour, operation is postponed regardless of the patient's clinical condition. If under routine treatment the output remains low, but constant, the renal function is probably in a stable condition, and the operation may be undertaken, care being taken to select an anesthetic which will not further depress the renal function. In one instance a successful operation was performed with an output of 8 per cent. for the first hour, but this output had remained constant for a period of five weeks. The low output here was ascribed to chronic interstitial changes in the kidney, and nitrous oxide was accordingly employed.

When the residual urine is large and the patient has not been leading a catheter life, even if the output at a single determination is large, operation is deferred in order to determine whether the functional activity is stable, for it has long been recognized that following the relief of retention the function of the kidney is extremely variable. Repeated determinations should be made, and, except when unavoidable, operations should not be performed when the tests indicate a decreasing function. There have been two such cases in our series, in both of which operation was followed by death from acute suppression. Again when only a trace of dye is

excreted, operation should not be attempted, as grave renal changes exist. Two cases excreting only a trace died of uremia within a short period. In neither case was any operation performed, though clinically at the time of the first test no evidence of uremia was detected.

Following this the blood pressure must be taken. High blood pressure does not indicate a good surgical risk, though it has been proven that after the operation is completed, the blood pressure falls.

Peacock states that there is a direct relation between the degree and duration of an obstruction in the lower urinary tract and the blood-pressure and reports 7 cases of prostatectomy with blood-pressure observations. These cases illustrate the fall in blood-pressure that accompanies a relief of the obstruction and the consequent back pressure on the kidneys. The sudden relief of the obstruction with the consequent lowering of the blood pressure to a level insufficient to secure adequate kidney function precipitates an acute nephritis. This is the real cause of the high mortality of prostatectomy; not shock or hemorrhage.

In the 7 cases operated upon there was a fall of blood pressure of from 10 to 110 mm. Hg. upon the relief of the obstruction by a simple cystotomy.

After a study of his cases, Peacock concludes:

1. There is a definite physiologic relation existing between the blood pressure and the filtration in the kidney glands.

2. A high blood pressure is purely compensatory and necessary to the individual in which it is found, to maintain a normal excretion of urine.

3. Any sudden and permanent lowering of the blood pressure by radical or heroic measures is often a fatal procedure.

4. A persistently high blood pressure, even in the absence of albumin and casts, usually means a hidden nephritis.

5. A chronic prostatic obstruction produces serious back pressure changes in the ureters, the kidney substance, the kidney circulation, and the excretion of urine.

6. A sudden relief of this intravesical pressure produces an immediate fall in blood pressure from 20 to 100 mm. Hg.

7. If pre-operative blood pressure is much over 150 mm. Hg., the risk of a cystotomy or prostatectomy advances rapidly.

8. Compensation between the blood pressure and the urinary excretion will take place if the pressure is not abnormal and will occasionally in a high pressure where there is unusual vitality or compensatory power.

High blood pressure must be controlled by correcting the diet—stimulating the elimination and rest in bed if that is necessary. In some cases it is not, but in others a rest of 1 to 3 weeks will bring about a reduction.

Arteriosclerosis, if not pronounced, is not a contraindication to operation if the blood pressure can be controlled.

Blood urea is determined and is found in cases of poor elimination of the phthalein test, and though it is a dangerous condition from a surgical point of view, still, it is amenable to appropriate treatment. Impending uremia is indicated by retention of acid salts in the blood and should be eliminated by using bicarbonate of soda.

The general health of the patient is carefully watched; instructions as to diet, drinking of large amount of water, free elimination, must be given and insisted upon being followed implicitly.

Regarding the reaction of the urine, suitable drugs must be given, though as a general rule, hexamethylamine can be used, but should the urine be too acid, such drug as citrate of potash, bicarbonate of soda are used.

Local irritation is taken care of by instillation of 10 per cent. argyrol, together with large amount of water by mouth.

In acidosis give bicarbonate of soda in large doses until the urine is alkaline. Young advises in advanced cases that it be given intravenously, also glucose and lactose—former by infusion and latter by rectum.

I wish to go on record as advocating the two stage operation. It is the safest and best for where a patient makes a good recovery from the preliminary procedure, he can stand the second stage practically without any danger to his life, provided the preliminary treatment has been thoroughly and conscientiously carried out.

Some cases demand suprapubic drainage before the preliminary treatment has been instituted, such as in retention, very large prostate, infected urine and inability to pass catheter. In those cases after the bladder has been opened and drainage established, the above treatment must be vigorously pushed before any further operative measures can be done if the case is to be carried through successfully.

In all cases select a suitable size tube; rather have it too large than too small. Place the tube carefully so that it will not cause any irritation.

Open the bladder high. Close the space of Retzius thoroughly. Anchor your tube securely. Avoid too frequent irrigations, but above all else, watch the dressings—see that they are frequently

and carefully changed. An experienced surgical nurse is invaluable in these cases.

The success of your operation depends on your after treatment. Do not leave too much to your nurse or interne, take active charge for at least 48 hours.

The great bugaboo is hemorrhage and he who wishes to have comfortable nights will do well to watch carefully and instruct the nurse accordingly.

Hemorrhage.—Careful and minute instructions must be given to the nurse to ever be on her guard, to be alert regarding this serious and dangerous complication. I know of one case where it was not discovered until the blood was found on the floor, having soaked through the mattress.

In perineal cases an extra strip of gauze soaked in adrenalin may be tried, increasing the pressure which should not be allowed to remain too long.

Remove the packing around the drainage tube, irrigate with hot water, wash out the clots and repack, or, if possible, tie off the bleeding point and then repack.

In suprapubic cases pack the entire bladder.

Hagner has devised an excellent device—an inflated bag with a catheter attached which is brought through the urethra and fixed by adhesive strips to the thigh. The bag is inflated and by traction on the catheter any degree of pressure can be produced. This effectually controls the hemorrhage. Irrigating through the drainage tube with hot water, with or without adrenalin, sometimes accomplishes the purpose.

Suppression of urine is the next great important complication. With thorough preliminary treatment this complication does not now develop as often as it did, after proctolysis of saline and glucose given 80 drops to the minute.

Where the operation has been prolonged for one reason or another, and a large amount of ether has been used, I order 10 grains of muriate of quinine to be given with the saline proctolysis. This measure has an added feature of reducing if not eliminating nausea.

At the earliest possible moment, I insist upon my patients resuming the drinking of large amounts of water, giving hexamethylamin several times a day.

Shock.—The two stage operation is practically

free of this complication. Should it occur, heat, stimulation must be instituted at once.

Gangrene.—Give proper, careful and constant attention to the dressings—for the dressing must not be allowed to remain after they have become wet, even though it means changing the dressings as much as 10 to 12 times a day. Keep the skin dry—avoid irritation by the use of some bland ointment.

Bowels.—Tympanites and abdominal distention can be overcome by using a saturated solution 4 to 6 ounces of magnesium sulphate injected 6 to 8 inches in the rectum and retained for at least 10 minutes. So successful is this procedure that neither cocaine or morphine is indicated and seldom do you have to use pituiturin or escrine with strychnine.

Drainage Tube.—Insist upon a large tube being used. This tube is to be kept in place 4 to 6 days when a smaller one is inserted, though I see no reason for removing at any certain time, but judge same by the patient's condition and the appearance of the wound.

Diet.—As early as possible insist upon patient resuming a generous, nourishing, but easily digestible diet.

Do not allow patients to become bedridden. Get them up as soon as conditions permit. Old men are sometimes hard to manage and resist being made to get up.

Prior to placing them in a wheel chair, I have the head of the bed raised as early as the second day.

After the first 24 hours, patients can be turned, but before that they must remain on their backs.

Massage is given every day.

Sounds are passed after the tenth day and once a week after that.

STILLBIRTH DUE TO INFECTION.*

ED. L. CORNELL, M. D.

CHICAGO.

The subject of infection as a cause of stillbirth is one about which little is definitely known. Most of you appreciate the difficulty we experience in this country in obtaining the stillbirth infant for scientific work.

Much has been done in the animal kingdom on the bacillus abortans and it has been claimed,

*Read before the Englewood Branch, Chicago Medical Society, May 7, 1918.

though not definitely proven, that this bacillus is able to produce abortions in humans. To my knowledge, no one has succeeded in proving scientifically that any one bacillus is a cause of stillbirth.

It was noted by DeLee some time ago that often patients who showed signs of infection had stillbirths. He reported his observation in the *Journal A. M. A.*

Shortly after I was fortunate in having a case of stillbirth in which I was able to demonstrate the pneumococcus in both mother and baby. This was reported in the March 17, 1917, number of the *Journal A. M. A.*

These cases are comparatively few and far between, but last June one of my patients presented, stating that she had not felt fetal life for several days. The report of this case in detail is interesting:

Patient 372, age 29, IV-para, a housewife, Jewish, presented February 19, 1917, with the following history: Her last period was December 8, 1916. Family history: Mother dead, cause unknown; father living and well; two brothers and two sisters living and well. Otherwise the family history was negative. Previous illnesses: tonsillitis and leucorrhea. Previous labors: first, 7 years ago, breech case, now living; second, dead baby, well formed; third, live baby for six months, carried to full term and delivered in a macerated condition.

At the time she presented, she complained of pain in the stomach with nausea, but no vomiting, also constipation, anorexia and some pains in the lower abdomen, which were indefinite in character. She seldom had a headache. She had a rather profuse leucorrhea, which was white in color.

On general examination the head, neck and chest were negative. The muscles of the abdomen were relaxed and the uterus was normal in size and shape for a three months' pregnancy. Locally, the cervix was found to be lacerated and the os and surrounding mucosa inflamed; tubes and ovaries were negative. The blood pressure was 112 systolic, 54 diastolic. She was given potassium permanganate douches and a tonic capsule.

March 20 she reported for examination, stating that she felt better, the abdominal pain was not as severe, but that the bowels were constipated. The blood pressure was 110 and 68. April 20 the blood pressure was 112-72, the appetite good, she felt much better and the bowels were moving once a day. May 21 the blood pressure was 100-64 and the patient felt very well. June 19 the blood pressure was 118-65. The patient stated that the baby had not been active for several days, but the heart tones were heard and were regular. July 23 she appeared at the office and a diagnosis of a dead baby was made. The patient did not complain of any discomfort.

In the early part of July, suspecting that we were dealing with a case of stillbirth, I sent the patient to Dr. A. M. Moody for bacteriological study. He reported, under date of July 31, that aerobic and anaerobic cultures made from the cervical discharge revealed the presence of staphylococci, gram positive diplococci resembling streptococcus viridans and diphtheroids. The throat cultures contained streptococcus viridans and occasional staphylococci. The teeth cultures contained streptococcus viridans, staphylococci and the usual anaerobes, *B. fusiformis*, diphtheroids and streptococci.

The patient went into labor August 17 at 6 p. m. and had a 13-hour first stage labor, with a three and one-half-hour second stage labor. The bag of waters was ruptured artificially at 7:30 a. m., August 18. At 11 o'clock a dead baby was extracted by craniotomy as the uterus seemed to be unable to expel it. The child was badly macerated and looked as if it was a six months' fetus. The placenta was expelled spontaneously and was intact. The cervix bled sufficiently to necessitate two stitches to control it. The patient did not have a temperature over 99.5 during the puerperium. November 5, 1917, the uterus was found to be in good condition.

The fetus and placenta were given to Dr. Moody, who presented the following report: Placenta—gram negative bacilli and spore-bearing gram positive bacilli (probably both saprophytic). The liver contained organisms similar to those found in the placenta. Body fluid—diphtheroids and organisms similar to the above were isolated. No streptococci were found. In the gross examination of this fetus, no evidences of syphilis and no malformations were present.

X-ray pictures taken of this patient showed the upper right cuspid, upper left first molar and the lower left molar involved with apical infection. The upper left third molar root had not been extracted.

Dr. Moody endeavored to grow the various organisms found in the mother, placenta and fetus through sub-cultures, especially the diphtheroid group. He was unsuccessful, however, as all of them died out before it was possible to pass them through animals. We had planned to endeavor to produce stillbirths in the lower animals, but were unfortunate.

It has been recently reported that the diphtheroid bacillus was capable of producing abortion in the lower animals. Whether the bacillus we found in this case was similar to the one reported it is impossible for me to say.

As far back as 1908 Franklin Mall reported that he was able to demonstrate bacteria in the placenta of many monsters. Recently DeLee has demonstrated bacteria in the case of anencephalus (private communication).

If it is possible to prove a bacterial origin for monsters and malformations, why is it not

probable that bacteria may be a factor in producing those cases of stillbirth not distinctly syphilitic?

Again, if the syphilitic organism is able to penetrate the placental and fecal circulation, why should not other bacteria be able to do the same?

While I am not able to prove definitely that focal infection is an etiological factor, the two cases I have been able to study fairly accurately seem to bear out the contention. In the first case referred to the pneumococcus was found in tonsil and vaginal secretion as well as in the fetus. In the second a diphtheroid was found in the teeth and vaginal secretion.

I appreciate the fact that we are in the focal infection age fad, but I believe we can justly use good sense in the matter and perhaps arrive at some line of treatment in those cases of persistent stillbirth in which syphilis is not a factor.

122 South Michigan Ave.

THE TREATMENT OF OTOSCLEROSIS FROM AN ETIOLOGICAL PATH- OLOGICAL STANDPOINT.*

H. L. POLLOCK, M. D.,
CHICAGO.

Judging from the large number of patients who have come under our observation during the past few years, suffering from otosclerosis, we must conclude that either this condition, like carcinoma, is attacking more and more of our population, or else that our methods of diagnosis have become more efficient than formerly; and hence we are recognizing this disease more frequently now than we did in the past.

My opinion is that both conclusions are true, although I am positive that with our more complete and painstaking examinations, many cases are now diagnosed as otosclerosis that we formerly classified under different diseases. If my hypothesis as to the etiology can be proven, I am sure you will all agree with me that the number of cases is on the increase owing to the prevailing conditions which underlie the etiological factors.

First permit me to state what otosclerosis is, and not all authorities agree exactly on this point. Most writers agree that any case in which

Bezold's triad is present, must be recognized as otosclerosis. This triad consists of (1) elevation of the lower tone limit or loss of hearing for musical tones; (2) prolonged period of hearing by bone conduction; (3) negative Rinne.

G. W. Boot¹ agrees with this definition, except he modifies it as follows: "I believe otosclerosis to be a non-suppurative osteitis of the bony capsule of the labyrinth secondary to a primary focus of infection elsewhere in the body." George H. Shambaugh believes that heredity plays an important part in etiology. Given a hereditary predisposition, the process remains latent until aroused by some active stimulant which is not always the same as, for instance, pregnancy, anemia, or some foci of infection. (Personal communication.) J. Fraser² believes there are only four possible ways in which the affection may arise: (1) it may be congenital, (2) it may follow inflammatory changes in the middle ear, (3) may be due to an infection through the blood, (4) may be caused by abnormal conditions in the nerve supply of the parts affected. It is his belief, however, that the most probable cause is that it follows inflammatory changes in the middle ear. He shows microscopical slides which demonstrate the typical spongification in two cases which he was fortunate enough to obtain at post mortem.

While we all recognize the fact that otosclerotics may get a middle ear inflammation and suppurations, we also know that we see a large number of cases diagnosed clinically as otosclerosis that never have had the slightest sign of a middle ear suppuration. On the other hand, it is true that patients suffering from otosclerosis usually experience a profound increase in their symptoms during an attack of middle ear infection.

What are the pathological changes which take place in the bony wall of the labyrinth? According to Siebenmann, the changes are as follows:

1. Vascular and fibrous marrow penetrates the normal Haversian canals causing dilatation.

2. Next, there is a lacunar resorption by giant cells of the cartilage bone of the labyrinth capsule, resulting in the formation of large spaces containing blood vessels and numerous cells.

3. New deeply staining bone is deposited in the walls of these large spaces.

*Read before the Section on Eye, Ear, Nose and Throat, at the 68th Annual Meeting of the Illinois State Medical Society, at Springfield, May 22, 1918.

1. Ill. Med. Jour., Sept., 1915.

2. Jour. of Laryn., London, 1917.

4. The new bone becomes dense and gradually loses its affinity for the basic stain.

In other words, in the early stages of this disease there is a spongification and softening of the bony labyrinth, and later the bone becomes dense and sclerotic. There are certain other diseases in which similar microscopical changes occur. This is true of the bony changes found in atrophic rhinitis, hyperplastic ethmoiditis and in osteomalacia, also in the bones in early pregnancy.

During the past few years my associate, Dr. Joseph C. Beck, and I have been presenting our studies on the various phases and manifestations of an altered ductless gland secretion. In a combined paper read before the Academy of Otolaryngology, etc., 1916, we pointed out the similarity of the bony changes in these various diseases, and by deductions attempted to prove that the underlying condition in all of them is due to a disharmony of the ductless gland secretion. Bossi, who was the first to demonstrate this pathological bone condition of osteoporosis or osteomalacia in animals that survived the operation of complete removal of the adrenalin gland, found that when cases of osteomalacia were treated with hypodermic injections of adrenalin chlorid, the bones became more firm and solid, this being due to an increase of the calcium salts.

It is very simple to explain the etiology of otosclerosis on this theory, i. e., of altered ductless gland secretion, but we must go a step farther and seek the cause of this altered secretion. In other words, seek the cause of the cause. The physiological and pathological secretions of these ductless glands are still somewhat of a mystery and when the question of a hypo or hyper activity of each gland can be demonstrated by our physiological chemists, then many of our unsolved problems in medicine will have been answered. Crile has shown what shock, anger, etc., can do to change the normal activities of the ductless glands and we firmly believe that toxemias of chronic focal infections also are an important factor in disarranging their peaceful harmony. The authors whom I have just cited all agree that a focal infection plays an important role in the etiology of otosclerosis, but none, as far as I can learn, have attempted to show that it is through the ductless glands that this

is brought about. When we look over the history of our cases, it is, indeed, a rarity to find a case of uncomplicated otosclerosis. By that I mean an individual who is free from sinus affections, either suppurative or non-suppurative, from defective septum or spurs or from degenerated, diseased tonsils or adenoids.

In catarrhal otitis media, we all know that by correcting these abnormal pathological conditions, a beneficial influence is bound to result in a large percentage of cases. Some of my critics might attribute the good results which we obtained by surgical interference to local effects, but how can they explain the excellent results in same cases by removal of the infected gall bladder, a chronic appendix, or other foci at a distance from the ear.

There are other conditions, such as shock, anger, fright, probably anemias, etc., which also have a baneful influence upon the ductless gland secretions. There is another very important point which must be taken into consideration at this time. Why, when there are so many people suffering from chronic focal infections, are there proportionately so few cases of otosclerosis among them? There is no question that heredity, as pointed out by Gray of Glasgow, plays a very important role. We know that there are many families with unstable nervous systems, and we must certainly believe that there are many with unstable ductless gland systems. It is in these families where chronic focal infections, the great etiological factor of an altered ductless gland system, are the basis of the condition which we recognize clinically as otosclerosis.

We know that this disease makes its appearance usually in young adults, about the time, or just after puberty. That a great change takes place in the ductless glands at this time is a well-established fact and that the system requires a rearrangement of these glandular secretions is recognized by all physiological chemists. We must conclude that at this unusual period of our life the system is more unstable than at any other time, and a very slight disarrangement of the ductless glands, due to any cause, may create grave disturbances.

It is at this period of life when anemias are common, when colds and tonsillitis are more frequent and when the accessory sinuses are fully developed and are subject to infection.

It is also just at this period of life when an almost analagous pathological bone condition occurs, viz., atrophic rhinitis. As shown by Dr. Beck and myself, in this latter condition, a rarefaction or spongification of the turbinate bones occurs just as it does in osteomalacia, otosclerosis or in the bones of early pregnancy.

If these bony changes can be produced in animals artificially, must we not conclude that in the human the same osteal-pathological change occurs in individuals who are suffering from an altered ductless gland secretion? That chronic foci of infection may be the etiological factor in producing this disharmony we must concede, for a removal of these foci invariably has a beneficial effect upon the progress of the disease.

When a young adult presents himself with a history of progressive deafness accompanied by tinnitus, in which Bezold's triad is present, we must diagnose his condition as otosclerosis. As stated before, an uncomplicated case, i. e., without further pathological conditions, is a rarity. Nearly all show evidences of an accompanying non-suppurative otitis media. They may have chronic infected tonsils or chronic sinus disease. To make out diagnosis more positive, we concluded that these areas of osteoporosis must show themselves in x-ray of the mastoid. The result of our investigation along these lines was given by Dr. Beck in a paper read at the 21st annual meeting of the American Laryngological, Rhinological and Otological Society in 1915.

We can show definite areas of softening in the bony labyrinth. If our hypothesis as to the etiology is true our treatment must then necessarily be directed toward the removal of the infected foci and an endeavor made to restore the endocrinous gland system to perfect harmony. Our treatment is as follows, that is, after the diagnosis has been made clinically and by x-ray: The offending foci is removed, whether it be tonsil, accessory sinus, appendix, gall bladder, or what not. Sometimes, owing to causes over which we have no control, we are unable to proceed to the removal of the suspected focus, or we have not been able to definitely locate it. We then attempt to proceed to the restoration of the harmony of the ductless glands. Experience has taught us that there is almost always a hyposecretion of the adrenalin or the hypophysis. As the physiological effect of the two are similar in

many respects, we generally employ the former one.

The amount injected and the time intervening between treatments varies in individual cases and we must be guided by clinical symptoms brought about by the injections. We depend a great deal upon the blood pressure, and when it rises and remains higher than it did before the treatment was instituted, we refrain from further treatment, until the blood pressure has receded to what it was before. Generally speaking, the treatment is started with 3 minims of adrenalin injected subcutaneously three times a week. The amount of the adrenalin is increased gradually so that at the end of eight weeks we are employing from 10 to 12 minims. There is then a period of rest from four to six weeks and the treatment again started. This time we begin with about 5 minims and gradually increase our tri-weekly treatments until fifteen minims are employed. Another rest and another course of treatments, etc. The entire period covers about one year. It usually appears to take about this length of time to have the adrenalin gland restored to its normal function.

In nearly every case there is a slight increase in the hearing and a decrease in the tinnitus after the tonsils have been removed or intranasal or accessory sinus trouble eliminated. This increase is due to the removal of the foci *per se* and has its beneficial results upon the accompanying catarrhal otitis.

The result of the adrenalin and pituitrin injections has been very beneficial to the patient as it usually ameliorates the tinnitus and permits the patient to retain that amount of hearing which he had. The treatment is of practically no value if the hearing is almost totally destroyed. The earlier in the course of the disease the treatment is begun the more gratifying are the results.

DISCUSSION

(Abstract)

DR. HOLLINGER (Chicago) agreed with Dr. Pollock that the disease termed otosclerosis is much more frequent than we supposed. At the same time, we must be very careful to limit our diagnosis to the cases which in every way coincide with the picture that has been mapped out.

The inflammatory nature of the disease ought to be definitely denied. We find no indications of inflammation in clear cases; to judge from those cases where in connection with middle ear trouble we find otosclero-

tic fossi in the capsule of the labyrinth that all cases are inflammatory would be going entirely too far. Swellings of the periosteum over the fossi has been shown in microscopic specimens, and those swellings have been proven to be post mortem. The earlier we get the specimen, the less swelling we see. If we get the specimen three to five hours after death, they are no swellings of the periosteum over the fossi at all.

The comparison with osteomalacia is very interesting, but he does not think that it will hold good. Osteomalacia is a typical disease of the whole bony system, and the first case where the direct connection of osteomalacia with the ovaries that has been shown was a case where he made the diagnosis of osteomalacia personally during his assistantship in Switzerland, where he sent a case of osteomalacia into the hospital. The ovaries were found diseased and removed, and to the surprise of the clinic, and everybody concerned, that woman who from the knees up to the shoulders and otherwise absolutely immovable without the greatest pain, straightened out in bed and in less than two or three weeks, she was practically through with the most distressing symptoms of osteomalacia. But osteosclerosis where you have the fossi absolutely circumscribed only in the capsule of the labyrinth, that any kind of a secretion of a ductless gland should have such an absolute selective effect is going too far.

As for the comparison with atrophic rhinitis—in otosclerosis we have new formation besides the destruction, if that is what you want to call it, for it is not exactly destruction but rather change. In atrophic rhinitis, it is only destruction, it is only loss of tissue, not new building, not new formation.

Heredity, of course, is generally considered, and the more carefully we go into heredity, the oftener we find it; it has been given up to eighty and eighty-five per cent.

If Dr. Pollock succeeds in getting results, we will all be very grateful, because any procedure that assures any amount of success in these cases must be welcomed. But, under all circumstances, remember that it is not a definitely progressing disease; it is a disease which goes to a certain point and then stops, usually to the higher stage, and to call the stopping improvement is a point you have to guard against.

If Dr. Pollock brings us the histories with the regular hearing tests and the regular controlling tests from time to time certainly we will gladly accept his arguments, but we have to be careful about our conditions. Infected tonsils, irregularities of the nose, of the sinuses, have to be taken care of. Every recurrence of inflammations in the nasal pharynx is bound to hurt the conditions in the middle ear, and anything that is liable to increase the blood supply toward the ear and toward the labyrinth is bound to hurt.

From this standpoint we have to regard the increase of deafness during child-bearing, the increase of deafness in these cases after prolonged exertion, after overwork, after worry—all these causes have

the common effect of producing a prolonged hyperemia of the capsule of the labyrinth, and in this way bringing an advance of the disease itself.

DR. POLLOCK: As I stated in my paper, this was a hypothesis which we brought forward as to the etiology. I simply showed a comparison of the bony changes of osteosclerosis in these various conditions which you all know, and especially the case of osteomalacia.

Two years ago I showed at the American Academy of Laryngology cases we treated in our hospital of osteomalacia, where there were fractures, and which after about three to six months' treatment with adrenaline and a redeposit of the calcium salts, these patients were able to walk around, and the bone was in as good condition as it had been before the woman became sick.

As far as the case the doctor refers to in which the ovaries were removed is concerned, the ovaries are a part of the ductless gland system, and it is these ovaries that in a young individual will cause this disharmony. I don't know what it is, whether it is a hypo or a hyper-secretion of one or the other, but I believe it was a disharmony of the ductless glands.

Another case which the doctor refers to, where otosclerosis gets worse in pregnancy—this isn't due to mere congestion. We know by x-ray pictures that there is an enlargement of the hypophysis during pregnancy, and when there is too much secretion in the hypophysis at the end of the nine months, this excess is thrown off into the blood, and it is supposed to cause a contraction of the uterus. It is also an altered ductless gland secretion.

All of these things, if you look back, will tend to make us believe that there is some disharmony which causes it. Why the selective point is in the bony labyrinth I have not been able to tell you, but seven or eight years ago I presented a paper on atrophic rhinitis in which I fed patients on ductless gland and got an improvement in a great many of them. That was the beginning of our studies, and it is difficult, without any former knowledge, without any reference work, just to see how much and how little of this ductless gland secretion they could absorb.

In regard to the actual results obtained, I did not state that we had any startling results. We have been led to believe that otosclerosis is a progressive disease beginning in young adults, and you have all seen them progress so that the hearing is possibly obliterated. But if you take young adults and have treated them, as I did, for five years, and see their tinnitus improve, not disappear; and they retain by our tests the hearing which they possessed five years ago, I think that we have some ground on which to base our conclusions. Otherwise, you simply throw up your hands and say we can't do anything for otosclerosis. But our histories will show that they retained about the same amount of hearing. And, as I stated, some of them were improved by the removal of these infected fossi, due to the removal of the fossi per se, and not to the change in the ductless gland, and they have re-

tained that increased hearing which was brought about by the removal of the fossi.

There was one exception. I had a case of a young woman about twenty-six or seven, who was very hard of hearing, had tinnitus, had the typical symptoms of otosclerosis. I gave her adrenaline injection and her hearing increased perceptibly. I treated her for a year according to this method, and whenever I stopped that treatment, she would get worse. I treated her for two years, and I stopped, and she is just as bad now as she was before. This is one case which I recall in which the injection of these secretions only helped her temporarily, and that was the little that we injected, and it did not seem to stimulate. I tried pituitrin and adrenaline. Only when I gave her the treatment was she better.

THE PATHOGENESIS OF OPHTHALMIA ECZEMATOSA*

(A FURTHER REPORT)

MICHAEL GOLDENBURG, M. D.,

Acting Surgeon, Illinois Charitable Eye and Ear Infirmary,
Medical Society, at Springfield, May 22, 1918.

CHICAGO.

The preliminary report was made at the last meeting of the American Medical Association, New York.

Phlyctenular conjunctivitis and phlyctenular keratitis, which have been so exhaustively described in the literature of the past under separate headings, and which I have taken the liberty of classifying as one disease, is I believe, justified, and I feel confident that those who have given this condition serious consideration will agree with me for the following reasons:

First, I do not recall one instance where the pure case was absolutely limited to the cornea or conjunctiva; both are invariably involved at one and the same time. Second, that the disease *per se* affects only the epithelium of the conjunctiva and cornea. When it affects the deeper tissues of these structures, it is due to secondary infection, not to the disease under consideration, e. g., corneal ulcer. It is worthy of note at this time that these tissues and the tissues of other parts usually involved at the same time, e. g., the skin and hair, are all of epiblastic origin. It is owing to this collection of facts and others to be enumerated that I have seen fit to place this disease or syndrome under the single classification of ophthalmia eczematosa.

This condition, or disease is and will always remain an interesting subject to ophthalmologists, pediatricians and dermatologists. To the ophthalmologist, owing to its common prevalence, complications, sequelæ and frequent recurrences; the pediatrician, as a disease of childhood with an annoying complication to a part that he is loath to treat; to the dermatologist as another form of eczema that he will have to solve, and I am inclined to think that it will be the dermatologist, or pediatrician who will say the last word upon the etiology of this question. I wish to further go on record with the statement that this condition will never be controlled as we have been able to control such diseases as smallpox, diphtheria and others of like character. First, because it is never serious as to life, therefore will never receive the detailed care necessary. Second, that it is a disease of childhood and in an element almost impossible to control. Third, because it is not bacterial, therefore no antitoxine or vaccine will cure it.

The etiology of this condition has been attributed to nearly everything possible to produce disease, depending largely upon when the essayist was working, by which I mean what disease or theory of dyscrasia was most popular at the time. For an example, when the tonsil and adenoid question first became popular this disease was thought to be due to that, and so followed or preceded the scrofulous theory, intestinal putrefaction, anaphylaxis, tubercular, and now we are commencing to hear of diseases of the accessory sinuses and teeth as the casual factor or factors.

To attribute the symptoms of this disease to tuberculosis was a logical deduction in view of the marked prevalence of this disease and the astonishing statistics compiled by workers in the dead house. Then followed the skin reactions with their almost 100 per cent positive findings after the second year of life, but the fact remains ophthalmia eczematosa is rarely seen before the second year and is not common after the eighteenth year of life; further, the very rapid control of these symptoms and the rare relapse in the adult is not compatible with tuberculosis.

It was this phase of the question that first attracted my attention some eight years ago. Working in a field of almost unlimited material with excellent opportunity for observation and

*Read before the 68th Annual Meeting of the Illinois State Medical Society,

some experimentation of which we have tried to take advantage, and I now feel that I am in a position to make some deductions.

I naturally started with the theory then at its height, that is the tubercle bacillus or its toxine as a casual factor, and instituted treatment and regimen accordingly with the same results obtained by most observers. Being somewhat disappointed with these results I questioned the premises upon which the theory was based and therefore resorted to a little experimenting in that direction. I then concluded to treat a series of cases with an anti-tubercular therapy, e. g., ferruginous tonics, fresh air, over-feeding, etc., omitting the use of tuberculine and found the results just as satisfactory.

To have made a statement at that time contrary to the theory propounded would have almost resulted in ostracism, but today we find the adherents to that theory not quite so enthusiastic, and we find such authorities as Axenfeldt, John W. H. Eyre, L. V. Haman, George S. Derby, and others reporting unfavorably upon this hypothesis.

However, during this work innumerable avenues for further endeavor opened up that appeared promising. The factor of topical therapy impressed me as irrational and based upon pure empiricism, the variety of drugs used at the present time and in the past is, I believe, in itself proof of the failure of topical treatment. Therefore, this phase of the question had to be dealt with and eliminated first, for surely all these drugs could not be of real value in one disease. This question we settled to our satisfaction, in that every drug used was individually tested over a period of time in a series of cases and we were able to state that no drug had any real influence upon the disease *per se*, except atropin. Corneal ulcers are not considered as they are not a part of this disease but a complication due to a secondary infection. It is interesting to note that while the corneal phase of this disease does not respond to our classic bactericidal treatment, the true corneal ulcer becomes clean and covered by epithelium, that is, no longer stains, but this is as far as one can attain, for it continues to remain in a state of irritation, not unlike a nerve-ending disturbance, similar to but milder than herpes zoster ophthalmicus, until the clinical

entity has run its course. In view of these results all drugs were discarded and topical treatment limited to the use of atropin, regardless of whether the cornea, conjunctiva or limbus was involved.

The evidence of the ineffectiveness of topical therapy clearly demonstrates the condition under consideration not to be a real eye disease, but a local manifestation of a systemic disturbance. This being a fact, the only other avenue for search was in the field of general medicine. The many conditions thought to bear some relation to this array of symptoms were gone over with the hope of finding some tangible basis for a working hypothesis.

We therefore decided to make a general physical examination in a series of cases, tabulating all the findings carefully in the hope that a painstaking analysis of such a table might give some clue that would be of real value. This was accomplished as carefully as it is possible in an out-clinic department with the following results:

The age of the patient shows that the greatest prevalence of the disease is between the second and twelfth years of life. Patients under two years of life are seen very rarely. Seventy-five per cent of the children were fairly well nourished. It is noteworthy that some of the most severe cases seen were in plump, ruddy children, to all appearances presenting an excellent degree of health.

This does not bear out the claims made by certain authors that phlyctenular disease is usually observed in anemic children with what is best described as a tuberculous habitus. The sexes were equally represented. The majority of the patients belong to the lower classes, where the families were large, in which the environment from a hygienic standpoint was not wholly bad, except in so far as individual parental control was exceedingly limited, the children being left almost entirely to their own resources. Adenopathy was manifest in the submaxillary, anterior and posterior cervical regions, the lymph glands being plainly discernable on palpation but rarely painful on pressure. The tonsils and adenoids were frequently enlarged and diseased. Skin and hair were characteristically dry. Erosions around the nostrils and behind the ears, especially where the two skin surfaces come in contact, were seen frequently. These erosions

which proved to be an intertrigenous eczema were often observed also in the inguinal folds, especially in very young children, Seborrhea of the scalp was not infrequent in the same class of children. A history of cough and loss of weight was seldom secured. Urinalysis, with special reference to the presence of albumin, sugar and indican invariably gave negative results.

The routine eye examinations for this class of cases revealed nothing unusual as regards the clinical picture of the conjunctiva, limbus or cornea and presented no statistic data of special significance.

A summary of this table discloses the facts that exclusive of the lymph adenopathy which, in my opinion, is due to bad teeth, diseased tonsils and adenoids, seborrhea and other eczematous conditions, we have the clinical signs and symptoms resolving themselves into affections of tissues of epiblastic origin, e. g., a dry skin, weeping eczema around the nostrils, back of the ears and in the inguinal folds, the hair being particularly dry, giving to the sense of touch the idea of being artificial.

We have then the following possible factors to sustain the tubercular theory, lymph adenopathy, which I am sure can be ruled out upon the basis before stated, absence of temperature, loss of weight and other signs and symptoms usually associated with tuberculosis. Then we have left only the positive Von Pirquet reaction that some observers still continue to lay great stress upon. I have made a great many of these tests upon those afflicted with phlyctenular disease and found a positive reaction in fully 98 per cent. of the cases after the second year of life. I then made this test in a series of eye cases as they came into the clinic, irrespective of age or affliction and found the same results. Occasionally we would find a negative reaction in an active tubercular process, e. g. a Pott's disease. This fact has been reported by others and was the subject of marked discussion about eight years ago.

I do not believe that anyone today is justified in saying that a condition is due to tuberculosis on the mere positive Von Pirquet reaction; Dr. Eyre long ago made a very definite statement on that phase of the question.

An analysis of the foregoing signs and symptoms, the results obtained with the anti-tubercu-

lar therapy over a long period by myself and many others reported in the literature, seems to me almost definite proof of the non-tubercular etiology of this condition.

I am willing to concede at this time a corneal scleral disease that closely resembles ophthalmia ezeematosa, that may be due to the tubercle bacillus. I am unable at this time to describe it in sufficient detail to make a positive differential diagnosis. The papule in this condition does not alone involve the epithelium, but also the deeper structures of the cornea, they do not break down so readily and the deeper vessels are engorged, and it is frequently difficult to differentiate from interstitial keratitis. This disease is seen in about 2 per cent. of the cases.

As to other bacteria, probably playing an important part in this disease, we can say the following: The phlyctenule before rupture is absolutely sterile. This has been proven by reliable workers. Personally, I have tried to obtain cultures from these papules and found it a very difficult problem; owing to the inability to sustain an uncontaminated field, my findings in these cultures disclosed the same micro-organisms commonly seen in the flora of all conjunctival sacs. The role played by these organisms is in the production of complications, e. g., as ulcers of the cornea and conjunctiva only.

The tonsil and adenoid question was thoroughly tried out, and a summary of these results disclosed the usual improvement seen following the radical enucleation of these parts, but it did not impress one as having a real influence upon the disease under discussion.

The intestinal putrefaction theory seemed the most attractive one to next interest us. This was carefully studied, but the histories of the cases, the urinalysis and the observation of the stools of these patients gave us no evidence of such a condition existing. However, the disease was treated under the assumption of such a condition existing. And series after series were treated by the different methods suggested by gastro-intestinal workers. The final analysis of this work found us in a position to state that of all medicaments used calomel yielded the best results.

Thus we arrived by a process of elimination to the conclusion that atropin locally was the only drug of any real value to the eye condition

and calomel internally had the most favorable influence in the way of systemic medication. In this state we remained for some time; the results obtained were as good as under any previous form of management. We could at least now say that we had simplified the medication.

The next logical step that appealed to us was in the direction of the diet, for intestinal putrefaction is improved but not cured by drugs alone.

On questioning the parents of the afflicted children the astounding fact was learned that fully 98 per cent. of the patients consumed an excessive amount of carbohydrates, especially in the form of sweets. At first we were inclined to pay scant attention to this feature until further questioning elicited the statement that these very children had little desire for plain, nutritious food. With a view of ascertaining whether this faulty diet had any decisive influence on phlyctenular disease, a practically carbohydrate free diet was instituted in a series of cases as the single and sole method of treatment, excluding even the topical use of atropin, with the gratifying result that the children so treated did far better than with calomel and atropin alone. Later medication and diet were combined with exceedingly satisfactory results.

The diet prescribed consisted of plain food, e. g. bread, butter, milk and eggs. This dietary cannot be regarded as ideal, but was the best available for external reasons.

These results were so striking that many interested who were familiar with this series of experiments admitted the striking improvements but questioned the direct relation of the dietary to the favorable phenomena. Convinced that the dietetic regimen alone and unaided to be the principal cause of the favorable course of this disease, resort was had to another series of experiments which left no room for further doubt. Taking a number of children whose affections had been under complete control, the dietetic regimen was abandoned, and foods rich in carbohydrates allowed. Almost at once this disease reappeared with the acuity of a pronounced relapse. These experiments were repeated at frequent intervals and invariably yielded the same results.

The experience became so convincing that whenever patients presented themselves with a relapse faulty diet was assumed and invariably

admitted. Again and again the observation was made that relapse occurred when the parents ceased to exercise control over their children, enabling the latter to yield to the temptation to consume sweets. Naturally the question suggested itself whether the dietetic error, shown to exercise a decided influence on the cause of the disease, was to be sought in the carbohydrates *per se*, or merely in the sweets. To answer this question resort was had to a control test by the administration of ample doses of saccharine as a substitute for these sweets. It was now uniformly observed that this coal tar product did not in the least show any unfavorable influence on the ocular manifestations, proving conclusively that the carbohydrates *per se* must be held responsible.

Whether the unfavorable influence of carbohydrates is to be ascribed to a faulty metabolism, or to a limited ability of assimilation of the carbohydrates and the excess probably undergoing chemic changes, which in turn yielding toxic or irritating agents sufficiently effective to produce eczematosa manifestations must for the present remain an open question.

As regards the *modus operandi* of whatever processes are responsible we must look to the laboratory for an explanation.

We now had established three distinct avenues of approach. Atropin locally, calomel internally and a diet free of carbohydrates. Here we remained for sometime, treating case after case with much better results than had heretofore been obtained and after a long period of time had elapsed we could make the following deductions.

1. Adults responded very rapidly upon the dietary regimen alone, particularly after the 18th year, without relapse.

2. Children between the ages of three and seven were the most obstinate, particularly where the families were large and individual attention was absolutely impossible. It was noted in these obstinate cases that the pupils were difficult of dilatation, although the parents claimed the atropin was instilled as directed. We therefore, resorted to the use of four per cent. atropin ointment and observed as soon as we were able to produce a complete dilatation of the pupil, the symptoms abated in intensity. The results were so striking that we questioned the efficacy of the

administration of any other drug internally, but could not intelligently answer why atropin influenced the symptoms so favorably.

The exudative diathesis theory as propounded by Czerny was suggested, that is the external phenomena as presented by ophthalmia eczematosa were probably a part of the picture the result of irritability or hypertonia of the vagus system.

If this be so then atropin is therapeutically the drug best suited and not calomel. Accordingly calomel was abandoned and atropin administered internally instead in a series of cases, as suggested by the practice of Krasnogorkis and Leopold, who prescribe a solution of atropin, 1 gr. to the ounce of water, in doses of three drops every three hours and daily increased the dose by one drop until the physiological effect is reached. A number of patients were treated by this method without stopping the topical instillations of atropin and restriction of diet.

The tolerance manifested by these children for this powerful drug is quite remarkable, some consuming as high as one-third of a grain daily.

This form of treatment has now been extensively followed for the past eighteen months and the results have been so greatly superior to any routine followed heretofore that basing on the present experience, one cannot but say that absolute control of the symptoms of phlyctenular disease is assured by it.

But it must be emphasized that while atropin best controls the symptoms permanence of therapeutic results will depend on a strict adherence to a suitable diet even long after all the symptoms have disappeared.

SUMMARY.

1. Ophthalmia eczematosa or phlyctenular disease is not a true pathologic entity, but a local manifestation of a systemic disturbance.

2. The tubercular theory in my opinion can be excluded with certainty as we have nothing to sustain such a hypothesis but the Von Pirquet reaction.

3. Ophthalmia eczematosa is in all probability one of the expressions of vagus system irritability produced by some toxic agent, resulting from faulty carbohydrate chemism.

4. Correction of the chemism by carbohydrate free diet and control of the vagus hypertonia through the topical and internal use of atropin

over a period long after all signs and symptoms have disappeared yield the best results.

DISCUSSION

DR. H. H. BROWN thought the one point Dr. Goldenburg brought out of practical importance to us, is that ophthalmia eczematosa is not a disease entity, but that it is a local manifestation of a systemic or general disturbance.

He has long discarded as useless any line of treatment for phlyctenular disease of the conjunctiva that does not give first importance to the alimentary canal. Whether this has come as a result of experience or what not, it is his belief that any treatment directed to phlyctenular diseases of the conjunctiva pure and simple which does not give first aid to the correction of the alimentary canal is wrong, and you will meet disappointment ultimately in your therapeutic efforts.

He is further convinced, from the lack of clinical findings and the result of our very best therapeutical efforts, that phlyctenular diseases are not due in the gross to tuberculosis causes. A certain per cent. of tubercular depletion of the system may furnish a sinus for the development of these conditions and render a possible delay in the successful issue of the treatment, but that phlyctenular diseases of the conjunctiva or disease, properly speaking, of the conjunctiva is tubercular in character he is loath to admit.

The routine treatment which has yielded best in his hands is, first, immediate attention to the alimentary canal, and routinely he prescribes calomel. He is equally confident that the close following and the continuation of castor oil, and a very careful and rigid and restricted diet will permit many of these cases to clear up almost to complete recovery without any treatment whatever to the eye. To be sure, if there is a deeper corneal involvement, iritis, or something of the sort, we must resort to local treatment to the eye at once as well as intestinal—but here is the milk of the cocoanut—clean the intestinal tract, stimulate hepatic sluggishness, keep the intestinal tract clean by the proper regime of diet, best accomplished by the proper use of cooked vegetables, cereals and an abundance of vegetable and animal fats. He is very fond of an abundance of olive oil in all of these cases, after the intestinal tract is cleaned, and has found that the suggestion of eggs, which is universal, has in many instances proved rather disappointing. Many of these little stomachs will not tolerate the very nicest emulsion of cod liver oil which is at the head of all oils; in the absence of that, give olive oil.

He has not found that atropin has done the work, because he has used it always conjointly with free elimination and proper alimentation. He is convinced that the proper hygienic surroundings and dietetic care of the little sufferer from phlyctenular conjunctivitis will yield more than any other one agent. He believes that a hypersensitiveness or an irritation of the vagus system producing a disturbance in the cen-

tral organism and thus exciting a local disturbance in the eye, is the most rational explanation that has been advanced for phylctenular disease of the conjunctiva.

DR. FAITH was not thoroughly convinced that there is only one thing that causes phylctenular conjunctivitis. The observations of equally careful men have indicated that there may be other sources besides the gastro-intestinal tract. Whether we know just exactly what takes place in the intestinal tract, whether the carbohydrate diet favors the development of various organisms in the intestinal tract, or whether this is an absorption of an incompletely changed substance from the intestinal tract in the blood stream, of course, is a question that further investigation will have to prove.

He does not believe it is due to tuberculosis in the cornea.

Dr. Goldenburg: I might say in closing, that when I first became interested in this work, some eight years ago, it was not the disease per se that attracted me, but the supposed etiology. I was convinced at that time that it was not due to the tubercle bacillus or its toxine, and at the suggestion of Dr. William H. Wilder, then my chief, I started out to prove the fallacy of this theory. I soon found that the undertaking was a big one, it lead to fields far removed from Ophthalmology; but I believe I know more about this condition than I did before, I feel sure that I have at least graduated from pure empiricism.

This work is the result of about 800 cases that have been carefully studied. Dermatologists, dietitians and pediatricians have been freely consulted and to the latter, in particular, I am deeply indebted, for they have made dietary investigations of the young that are valuable. Finkelstein (Pediatrician) states that an alimentary intoxication can be due to a carbohydrate intolerance. He again states that fermenting lactose injures the permeability of the intestinal wall and permits the absorption of salts in abnormal kind or quantity, and that these salts either alone or in combination with sugar, produce poisons.

As to the diet I have outlined I am sure it is not ideal. I am aware that both bread and milk contain carbohydrates, but those working in a large out-clinic department can appreciate the difficult problem of maintaining a definite diet that can be followed by such patients. To arrive at an ideal diet takes a very long time and necessitates a great deal of laboratory work which unfortunately I have not been able to perform in the past year.

As to the exudative diathesis theory, I do not make the statement that it is absolutely due to that, but our signs and symptoms and the response to the atropine treatment fits in beautifully with that theory. I am, however, convinced beyond any doubt that this disease or syndrome is not bacteria.

INCIPIENT SQUINT.*

E. J. GARDINER, A. B., M. D.
CHICAGO.

When I submitted the title of this paper to your president, he asked me to dwell particularly on the etiology and the treatment of squint. In complying with his request, I shall endeavor to limit my remarks to those phases of the subject that are of special interest to the general practitioner.

In order better to understand the etiology of squint, it will be necessary briefly to review the evolution of the visual functions.

No department of ophthalmology offers a more fascinating and profitable field for investigation. Here the initial steps of physiologic and psychologic evolution are taken openly hand in hand, enabling the observer to note the development of the visual sense from pure sensation to perception, from attention to discrimination, as *pari passu*, the afferent currents, establishing habit in the cerebral centers, evolve the marvelous co-ordination of the ocular musculature and cultivate the fusion faculty.

Psychologists tell us that pure sensations are possible only in the very beginning of life. We often wonder, as we watch a new-born babe swaying its eyes from side to side, with vacant stare, what its visual sensations are, how much it really sees, in a word, how much of the visual faculty is innate.

No one has done more painstaking work along these lines than Mr. Claude Worth, F. R. C. S., who, with characteristic British thoroughness, devoted the major part of a year to experimenting on infants' eyes in two large English crèches. He has reported the results of these investigations in his book on Squint, from which I shall quote freely because in it he gives a satisfactory answer to our question:

He found that from earliest infancy the pupillary light reflex and the fixation reflex are present, showing that some degree of vision of each eye and the preponderance of the macula are innate.

If in a darkened room, the light of a candle be suddenly thrown from an ophthalmoscope mirror into the eye of an infant only a few hours old, the eye will immediately fix the mirror. This fixation is purely reflex and is only maintained for an instant. During the first few days of life the infant cannot fix a steady light,

*Read before the North Side Branch, Chicago Medical Society, April 12, 1918.

but by suddenly flashing the light into the eye, this reflex fixation can be repeatedly obtained.

Most infants at the end of two or three weeks will fix the mirror steadily for several seconds with one or the other eye, but will not converge the visual axes in looking at a near object.

If at the end of five or six weeks the reflection of a light held over the head of the child is thrown on the eyes with an ophthalmoscope, it will be noticed that the reflections on the child's corneæ are symmetrical, "showing that the child is fixing the mirror binocularly. But now and then, one eye will turn a little inwards or more rarely outwards."

Thus by means of its congenital afferent mechanism the babe receives a series of sensations followed by automatic reflexes which habituate the efferent or motor nerves of the eye muscles to act together.

During the first few months of life the movements of the eye are uncertain, not being completely controlled by the higher centers of the brain. The eyes move more or less together, but the slightest gastric or other disturbance will cause one or the other to deviate. It is interesting to note that this lack of co-ordination is confined to movements in the horizontal plane. The conjugation of the eyes for vertical movements is well developed from earliest infancy. It is hardly possible that any degree of binocular vision can be present with such imperfect co-ordination of the eyes in the horizontal plane.

At the age of six months, if the child's attention is engaged by a bright object of absorbing interest, it is possible for the person nursing the child to slip a large prism before one of his eyes without his appearing to notice it. A prism displaces the image of an object towards its apex; therefore, if binocular vision is to be maintained the eye must rotate in the direction of the apex of the prism. If a prism of 12 degrees is slipped before the child's eyes with the apex towards the nose, the eye will in many cases make a slight inward rotation, showing that the child has some sort of binocular vision. In some cases, however, while the naked eye continues to be steadily directed towards the object, the eye behind the prism makes no inward rotation. The vision of this eye is probably suppressed, "a significant fact as we shall later see, for" they resemble certain cases of occasional squint in which binocular vision is present when the eyes are straight, but suppression of the deviating eye takes place when the squint is manifest.

After the end of the first year a child who allows one to make the experiment with the prism apex turned inwards, will almost always turn in the eye in order to blend the images.

With some of these children Worth experimented by placing the apex of the prism up or down. Not

being able to overcome so strong a prism with the superior and inferior recti, the children manifested decided signs of disapproval, and tried to overcome the difficulty by screwing up the eyes and turning the head, proving that at this age a child already suffers from diplopia being no longer able to suppress the vision of one eye.

The results of fusion training in the case of squinters would seem to show that the fusion faculty normally reaches its full development before the end of the sixth year.

Of this fusion faculty, which is a purely psychological function and plays a most important rôle in the etiology of squint, three grades are recognized.

1. *Simultaneous macular perception.* In which the patient "sees devices in a stereoscope as two separate pictures which form one only when they are put in certain relative positions corresponding to the directions independently assumed by the visual axes. The *desire* for binocular vision is absent, so that no effort will be made to maintain fusion."

2. *True fusion with some amplitude.* The patient not only fuses the retinal images of the two eyes, but he can make some effort to maintain fusion. If pictures in the stereoscope that have been fused are separated or brought together, the eyes to a certain extent will follow them and keep them fused.

3. *Sense of perspective.* "The two eyes see from different points of view. In looking at any solid object, such as a pillar . . . the right eye will see more of the right side and the left more of the left side. In the slightly dissimilar pictures thus focussed on the retinae the points of difference are not suppressed, as in the case of a person having only the second grade, neither is the observer conscious of diplopia. The psychological blending of the two slightly dissimilar sets of visual impressions enables him to appreciate the solidity of surrounding objects and assists in his judgment of their relative distances."

"There is a wide gap between grades 1 and 2. A patient, however, who has grade 2 usually acquires the third grade also."

I might say that this 3rd grade of fusion is one of the requirements in men applying for the aviation service.

Quite as important as the grade of the fusion faculty is its intensity. A person may in favorable circumstances attain the highest degree of binoc-

ular vision, but if the intensity is slight, in unfavorable circumstances, he easily abandons the effort and uses one eye only. In a person with fully developed fusion sense, the desire for binocular vision will be so intense that nothing will force him to abandon it when both eyes are open.

We may add as a corollary that when each eye has the power of seeing, but binocular vision is absent, one of two conditions must be present. First, the mind must be conscious of two sets of impressions received from the two eyes—diplopia, or, second, the mind takes note of the impression received from one eye, and ignores the one received from the other—suppression.

We are now prepared to undertake the inquiry into the etiology of squint. Strictly speaking, squint is a symptom of a complex of which the essential conditions are:

1. An abnormal convergence of the visual axes;
2. A defect in the fusion faculty.

Among the concomitant conditions we find—

- A. Suppression of the image of the deviating eye.
- B. Acquired amblyopia of the deviating eye due to suppression.
- C. Rarely, slight congenital amblyopia.
- D. There is nearly always a refractive error; usually hypermetropia or hypermetropic astigmatism.

As in this paper I shall deal exclusively with concomitant convergent squint, and as in the vast majority of cases hypermetropia or hypermetropic astigmatism is the disturbing element, it behooves us to inquire how the disturbance is occasioned.

When normal eyes are fixed on a distant object, the two images are focused exactly on the yellow spots of the two eyes and the visual axes are parallel. If the object is gradually brought closer to the eyes the muscle of accommodation begins to act in order to keep the focus distinct, and the internal recti begin their function, turning the eyes inwards towards the object, so that the images will continue to fall on the two maculae. The function of accommodation and that of convergence are intimately associated. If we look at an object situated one meter from the eye we use one diopter of accommodation and converge to one meter (one meter angle). If the object is

brought to point 25 centimeters from the eye, we accommodate 4 diopters and converge 4 meter angles.

Now the hypermetrope has to accommodate distinctly to see objects at a long distance. For instance; a hyperope of 3 D. has to accommodate 3 D. in order to see an object at a great distance. With this amount of accommodation is associated a convergence of 3 M. A., a point 33 centimeters in front of his eyes. It is obvious that he must either give up his accommodation and not see distinctly, or dissociate his convergence from his accommodation, otherwise, the object would appear double. Many persons are able to dissociate their convergence to a considerable extent from their accommodation, but others find it impossible to separate these functions sufficiently to maintain single binocular vision.

You can now readily understand the difficulties experienced by a child with hypermetropic eyes and a limited power to dissociate convergence from accommodation. Instinct prompts it to strive for distinct images, accommodation is brought into action, concurrently convergence ensues, diplopia results, and the struggle is on. If the fusion sense is absent or weak there is nothing to maintain the proper muscular co-ordination. One eye deviates inwards, its image is suppressed; the initial step of squint is taken. When the child is not looking at anything in particular, the eyes straighten, but the deviation reappears the moment any effort is made to see distinctly. This stage may be called incipient squint.* From the repeated suppression of images the deviating eye soon loses its power to see distinctly. Finally, amblyopia becomes more marked, the eye habitually turns in and squint is permanently established.

It is to be understood that this paper deals exclusively with cases of ordinary concomitant squint developed in the usual way. The time limit prevents any notice of alternating squint and the interesting forms of true occasional

*This stage is usually called "periodic squint." Worth has given it the name of "premonitory occasional squint." This term is confusing, especially so, as he recognizes two varieties of occasional squint, "premonitory occasional"; and "true occasional." The former is the precursor of constant squint, while the latter designates various anomalies of the visual axes, some of which, as he candidly admits, "are not squints at all, in the strict sense of the word." It is not my intention to suggest the name, incipient squint, for the generally accepted term, periodic squint, but as I am addressing a gathering of general practitioners to emphasize the importance of considering every deviation of the visual axes as a *probable* precursor of permanent squint, I have thought that the word incipient, because of its connotation, more convincingly sounds the note of warning.

squint, nor is it possible to discuss those conditions that precipitate but are *not* causes of squint. But let me reiterate the important fact that squint usually develops very early in life and that the essential requisite to obtain a *cure* is to get the case early enough; if possible, in the incipient stage and certainly before the squint has become definitely established. A great burden of responsibility rests upon the shoulders of the general practitioner, for he has the opportunity of discovering the first symptoms of the disorder. Give us the children with incipient or recently established squint and we will return them to you with straight eyes and with single binocular vision.

Instructive in this connection is Worth's table of ages at which the anomaly appeared in 1,017 cases of unilateral squint.

	Cases
Before 1 year.....	134
Between 1 and 2 years.....	186
Between 2 and 3 years.....	247
Between 3 and 4 years.....	189
Between 4 and 5 years.....	113
Between 5 and 6 years.....	73
After 6 years.....	75

It is an interesting fact that children who begin to squint after they are 6 years old seldom develop a high degree of amblyopia in the deviating eye.

Treatment. The four objectives of treatment are: correction of the error of refraction; prevention of the deterioration in vision of the deviating eye; training of the fusion sense; restoration of the visual axes to their normal relations.

Before commencing the treatment of a case, it is, of course, necessary to measure the degree of deviation and if possible, the visual acuity of each eye.

Measurement of the degrees of deviation. I shall describe only the easiest method because an ophthalmoscope is the only instrument needed, the technique is simple and the method yields satisfactory results even in children one year old.

Have a nurse hold the child on her lap and steady its head. Place a lighted candle or a ground glass electric bulb over and behind the child's face. Then, sitting in front of the patient, hold an ophthalmoscope in the median line, two feet from its eyes, and in such a position that

the light shall be reflected in one of its eyes. This operation will attract the child's attention and make it look at the light. Note the place on the cornea where the image is formed. If the child is looking directly at the light, the reflection will be seen at a point a little to the nasal side of the cornea. Now rotate the mirror so as to flash the light in the other eye. If there is no squint the image will occupy a position identical to that which it occupied in the other eye. If there is convergent squint, the image will be seen further towards the temporal margin of the cornea. If it reaches the outer margin of the cornea, there is a convergence of about 45° , if it touches the outer margin of a moderately dilated pupil, the deviation amounts to about 15° .

Testing the visual acuity. If the child knows its letters Snellen's test types are used. In younger children I use a rubber ball two inches in diameter, a golf ball and a marble one-half inch in diameter.

For this test the child must be able to walk or creep. First, in order to interest the little one and gain its confidence the squinting eye is bandaged. The marble is then rolled along the floor 20 feet away and the child is told to get it. The experienced observer can tell by the way that the little patient starts on its errand whether or not the marble is seen. If it is seen, the vision is normal; 20/20. If it is not seen, the experiment is repeated with the golf ball, equivalent to about 20/50. If the child again fails, the rubber ball, equivalent to 20/100, is tried. As the straight eye has, as a rule, pretty good vision, it is seldom necessary to go beyond the golf ball test. Then the good eye is covered and the test is repeated. Usually a marked difference will be immediately apparent in the way that the child handles itself. Frequently it will strenuously object to having the good eye covered and when it is finally persuaded to go on with the game, it will not make a move until the rubber ball is used, and then it will advance with a marked uncertainty of orientation. If the ball is not seen at twenty feet it is gradually brought nearer until it is seen, the new distance expressed in feet becomes the numerator of the fraction. If the ball is first seen at ten feet, the vision will equal $10/100 = 1/10$.

The measurement of the error of refraction must, in young children, be done with the ophthal-

moscope and under atropine mydriasis. Either retinoscopy or the direct method with the ophthalmoscope may be employed; personally I prefer the latter. Glasses fully correcting any existing astigmatism and correcting the hypermetropia to within at least a half diopter of the total amount, should be prescribed for constant use. This is the only means at our disposal for restoring the normal relations between accommodation and convergence.

I have been asked a number of times whether I would put glasses on a baby, and the tone of the questioners implied that an affirmative answer would convict me of brutality. My answer is, yes. I have put glasses on a baby 18 months old. The mother wept when I announced the decision, but smiled a week later when she informed me that baby cried for her glasses when they were taken off. That baby's left eye turned in 35° . Today she is a pretty little miss, with straight eyes, single binocular vision, 3rd grade of fusion and 20/20 in each eye. Furthermore, her eyes are straight without glasses, but she prefers to wear them for comfort.

In most cases atropine mydriasis combined with the constant use of glasses materially diminishes the amount of squint. But this is not enough; attention must now be directed to the prevention of deterioration of vision in the deviating eye. For this purpose one of two methods may be used at home; covering the good eye for a certain number of hours a day—a process which children violently oppose and seldom practice conscientiously—or, keeping up the instillations of atropine in the good eye alone. In this way the good eye is used for distance while the squinting eye is forced into use for all purposes requiring accommodation. This is an excellent method, but there are certain precautions that must be taken while it is in operation, these, however, would not interest the general practitioner.

Training the fusion sense. This should always be done by the oculist, and it is a job that demands infinite patience and unfaltering persistence. To oblige a child that does not see binocularly, and does not care to see binocularly, to visualize an image with an amblyopic eye, is an undertaking requiring the patience of Job.

For this purpose I use Worth's amblyoscope. I shall briefly describe the manner in which it is

used, but if any of you wish a demonstration, I shall be at your service after the other papers are read. The valuable features of this instrument are, that the tubes can be adjusted to suit the angle of deviation up to 60° of convergence, and that it is possible, by intensifying the illumination of the object corresponding to the amblyopic eye, to force the child to see it.

When the child has been trained to see simultaneously the images in each eye, I prefer to use the ordinary stereoscope with Kroll's movable devices and later with Javal's fusion pictures. The greater number of devices enable the operator to keep the patient interested; a great desideratum in this tedious process.

If the patient comes under treatment early enough these methods, if persistently followed, will accomplish a complete cure in the vast majority of cases. But if all of them fail to restore the visual axes to their normal relations, then, operative interference may be considered. More than twenty years ago I read a paper before the Section on Ophthalmology of the American Medical Association, in which under the title, "The Non-Surgical Treatment of Strabismus Convergens," I discussed the advantages of the non-surgical method and emphasized the dangers attending hasty surgical interference. Although I was not guilty of promulgating any startling doctrines, and my conclusions were based on carefully-tabulated statistics, I came away with the feeling that some of my confreres considered me somewhat of a crank.

Be that as it may, methods of treating squint have materially changed since those days. The hasty, full tenotomy has ceased to be performed. Optical correction combined with orthoptic exercises are usually given a fairly thorough trial and when surgical interference is deemed necessary, the more scientific and safer partial tenotomies and advancements are practiced. But notwithstanding the better chances of success offered by these conservative operations, it must not be forgotten that when a high degree of amblyopia exists in one eye and the fusion sense is absent, even these improved methods are apt to be disappointing, both to the patient and to the surgeon. The only way to insure good results is to start the treatment when the first symptoms of squint make their appearance.

ILLINOIS MEDICAL JOURNAL

Published monthly by The Illinois State Medical Society under the direction of the Publication Committee of the Council.

GENERAL OFFICERS, 1918-19

PRESIDENT.....	E. W. FIEGENBAUM, Edwardsville
PRESIDENT-ELECT.....	J. W. VANDERSLICE, Chicago
FIRST VICE-PRESIDENT.....	H. C. BLANKMEYER, Springfield
SECOND VICE-PRESIDENT.....	CLARA SEIPPEL, Chicago
TREASURER.....	A. J. MARLEY, Belvidere
SECRETARY.....	W. H. GILMORE, Mt. Vernon
(Ex-officio Clerk of the Council)	

THE COUNCIL

First District		Alternate
Councilor		
E. Windmueller, Woodstock	C. E. Crawford, Rockford	
Second District		
Edwin S. Gillespie, Wenona	J. H. Edgcomb, Ottawa	
Third District		
Clyde D. Pence, Chicago	S. J. McNeill, Chicago	
Fourth District		
T. W. Gillespie, Peoria	Coleman J. Eads, Oquawka	
Fifth District		
Charles S. Nelson, Springfield	F. C. Gale, Pekin	
Sixth District		
Henry P. Beirne, Quincy	L. O. Frech, White Hall	
Seventh District		
Chas. F. Burkhardt, Effingham	W. W. Murfin, Patoka	
Eighth District		
Cyrus E. Price, Robinson	H. N. Rafferty, Robinson	
Ninth District		
Charles W. Lillie, E. St. Louis	W. F. Grinstead, Cairo	
		Second Assistant Secretary

Clyde D. Pence, *Chairman*, 3338 Ogden Avenue

Send original articles and all communications relating to advertisements and mailing list to Dr. Clyde D. Pence, Editor, 3338 Ogden Avenue.

Membership correspondence to Dr. W. H. Gilmore, Mt. Vernon, Ill.

Society proceedings and news items to Dr. Henry G. Ohls, *Managing Editor*, 927 Lawrence Avenue, Chicago.

Contributors will submit all copy for publication typewritten on standard size paper and double spaced. Copy not complying with this rule will be returned, if convenient.

MEDICO-LEGAL COMMITTEE

WILLIAM O. KROHN.....	Chicago
E. E. EDMONSON, <i>Secretary</i>	Mt. Vernon
D. R. MACMARTIN, <i>Chairman</i>	Chicago
F. C. FISHER.....	Bloomington
C. B. KING.....	Chicago
GEORGE STACY.....	Jacksonville

GENERAL COUNSEL

ROBERT J. FOLONIE.....39 S. La Salle Street, Chicago

State society will pay no bills for legal services except those contracted by the Committee. Notify the Chairman at once. Do not employ attorneys.

NOVEMBER, 1918

Editorial

THE INFLUENZA EPIDEMIC.

Like all other things, the epidemic of influenza has an end and is now rapidly losing its epidemicity. Never in the history of the present generation has the world had a more widely spread infection or one affecting so large a percentage of the population. The death rate in many places has been frightful.

Illinois, perhaps, has not suffered quite so severely as some other states; and with few exceptions the situation is assuming normal proportions within our borders again. The number of cases throughout the state is not yet reported, and naturally a correct report will be impossible.

In Chicago from September 14th to November 2nd, 35,634 cases of influenza and 11,721 of pneumonias were reported. The number of cases reported, particularly of influenza, probably does not nearly enumerate them, as undoubtedly many cases were not reported. Many, no doubt, did not see a physician. The pneumonia cases were probably all or nearly all due to the influenza, or were pure influenza pneumonias from the beginning; but it will be readily seen that the number of pneumonias are way out of proportion to the total number reported. The deaths recorded in the same period were: influenza, 4,739; pneumonia, 2,965; all causes, 12,051.

While the epidemic feature is probably over, the probability is that many sporadic cases will appear during the entire winter, and while we may not look for such severe or fatal forms, still occasionally they too may occur. Many interesting questions relative to the disease are yet to be answered. The diagnosis is about entirely clinical. The treatment is symptomatic with a possible exception of the use of vaccines. The pneumonias are unlike other pneumonias, and in the main the course of the pneumonia is different.

An important element is still before us; namely, how many of the influenza victims will develop tuberculosis, or how many old quiescent tuberculous cases will develop activity? There seem to be an exceedingly large number of empyemas resulting; also a large number of pneumonias not undergoing resolution. We predict an unusual number of tuberculous cases will soon appear, and physicians should be particularly careful about diagnosis in all pulmonary cases. Physicians should be especially careful in discharging as cured those cases wherein lung conditions do not clear up readily.

We hope that now a more careful and scientific study of the disease may be made, and that something definite and rational may come out of the many forms of treatment. So far advanced medical treatment has been entirely symptomatic, and while it has ameliorated conditions, it has been neither preventative nor curative. Vaccines

and sera have been used extensively with varying success or no success at all. There seems to be sufficient evidence in favor of these agents to warrant a further study of their employment.

DIAGNOSIS OF PULMONARY TUBERCULOSIS

On another page is found an article written by Captain R. S. Berghoff, on the diagnosis of pulmonary tuberculosis in the Army. We think every medical man on an examining board should read this article carefully. There has been so much discussion by medical men as to the acceptance or rejection of men into the Army who were supposed to be tuberculous that much confusion has arisen.

Captain Berghoff was a member of the first board appointed to examine for tuberculosis in the Army, and has been in that service since, which has given him a vast experience in this work. Formerly he was in the tuberculosis dispensary service of Chicago. He has seen many of these men in camp, and has had opportunity to see how they have stood training. If one will read his paper carefully he will get a better idea of cases which the Government will accept for training.

There is an idea prevalent among the laity, and to a less extent among physicians, that if a man has ever had a pulmonary lesion he is not acceptable for Army service. Such is far from the facts. As Captain Berghoff plainly states, many of these men having old healed lesions, if not too extensive, stand the training well and are apparently benefited. It is the case showing activity which must be rejected, both on his own account and particularly on account of his comrades.

PROGRAM FOR EYE, EAR, NOSE AND THROAT SECTION.

The program for the Eye, Ear, Nose and Throat Section, of the Illinois State Medical Society, which meets at Peoria, Ill., May 20, 21 and 22, 1919, is now being arranged.

We wish to extend an invitation to all of the physicians of the state who are members of the Illinois State Medical Society, and who are making a specialty of the eye, ear, nose or throat, to take part in the meeting.

You are urgently requested to be present and take part in this great meeting, which has proven an inspiration to all and amply repaid those who have made the effort to attend heretofore.

The society extends to you an earnest invitation to attend and present a paper on some subject pertaining to the eye, ear, nose or throat, or open the discussion on the paper of some other essayist, or join in the general discussion as you prefer. The presentation of any new instruments or clinical cases is solicited.

A splendid banquet will be given in the evening and any member who will kindly consent to take part in the after-dinner speaking or entertainment is requested to notify the officers.

Kindly notify the secretary or chairman as soon as possible if you will take part in any of the above features of the meeting.

DR. FRANK ALLPORT, Secretary,
7 West Madison St.,
Chicago, Ill.

DR. WESLEY HAMILTON PECK,
Chairman,
31 North State St., Chicago, Ill.

VOLUNTEER MEDICAL SERVICE CORPS

We are publishing in the column of correspondence a letter from Dr. A. M. Corwin, which needs neither explanation nor comment. We believe the JOURNAL of the American Medical Association should have published it, but they have refused, and certainly Dr. Corwin has the right to be heard.

The Volunteer Medical Service Corps was authorized by the Council of National Defense on January 31, 1918, and later reorganized with a central governing board consisting of Surg. General W. C. Gorgas, U. S. A., Surg. General W. C. Braisted, U. S. N., Surg. General Rupert Blue, U. S. Public Health Service, Provost Marshal General E. H. Crowder, U. S. A., and about twenty other well known physicians, including such men as Martin, McLean, Sawyer, Simpson, Billings, Vaughan, Welch and the Mayos. It has the backing of the Surgeon General's office and of President Wilson. Sufficient for its official existence.

Just and fair criticism is commendable when put both in an honest and honorable way, but it is not justifiable and savors strongly of pro-germanism for any organization or publication

at this critical time to condemn, ridicule or attempt to nullify orders or recommendations which come from any of the war departments, including the Surgeon's General's office or the Council of National Defense, a government commission.

We hold no brief for the organization of the Volunteer Medical Service Corps, and we do not know how much service it may be called upon to give, but since its organization had the sanction of the Surgeon General's office and of the Council of National Defense we are sorry that the representatives of an association, of which we all are members, have so far forgotten the dignity and responsibility of their position, not only to their profession but to the Government, that they may attack in so scurrilous a manner any policy which has been determined upon by the governing authorities.

PAPER SHORTAGE

A ruling of the War Industries Board demands that all publications cut down their use of print paper. In the case of medical journals the saving must be at least ten per cent.

Perhaps this was a wise ruling. We do not believe any of these restrictions imposed by the War Departments are made until actual need of them exist. When it is necessary to impose a restriction everyone should willingly accede to the needed demands. When imposing restrictions on any commodity, because of the war necessity, such restrictions should be comprehensive, practical and logical.

There are tons of printed matter sent out by members of Congress and of the Senate, which, we venture to say, is never looked at; much of it printed on one side of the paper only. All of this reading matter, if of public interest, is abstracted by various newspapers, and the average citizen has not sufficient time nor interest to read more than the abstract. Tons of paper are littering the streets of Chicago,—sent out in the way of campaign literature and which is not read,—which not only is a waste of paper but which requires considerable labor on the part of the city to clean up.

We presume these various commissions find difficulty in making fair and practical rulings, but if newspapers, magazines and scientific or technical journals are asked to make a sacrifice,

surely the sources of such large waste should be scrutinized more closely and equal restrictions imposed on all users of print paper.

Some of the restrictions placed on scientific journals seem rather harsh, and if enforced for any great length of time would work an injustice and would also inhibit the circulation of much medical information,—a result certainly not anticipated.

MEDICO-LEGAL NOTICE

Dr. C. B. King, chairman of the Medico-Legal Committee, has accepted service with the Government, and will therefore be unable to give attention to the work of the Medico-Legal Committee.

Dr. D. R. MacMartin has been elected chairman of this committee to succeed Dr. King. County secretaries and members having malpractice suits started against them should address their communications to Dr. D. R. MacMartin, 20 West Jackson boulevard, Chicago.

INFLUENZA SYMPOSIUM AT A. P. H. A. MEETING

The influenza epidemic will be made the most important subject of discussion at the December meeting of the American Public Health Association. Some of the questions which will be discussed are the following:

Is influenza vaccine efficacious as a prophylactic?

What type of vaccine is most useful?

Does it help as a therapeutic?

What about nose and throat sprays?

What are the results with convalescent serum?

What about the open-air treatment?

How can the health officer co-ordinate hospital, medical, health and relief agencies in similar calamities?

How can we take advantage of the epidemic for the benefit of more adequate health appropriations and better community and personal hygiene?

The detailed influenza program is not yet ready as we go to press. The rest of the program will be substantially the same as previously announced. The papers read at the meeting will be published in the *American Journal of Public Health*.

Headquarters of the meetings will be at Hotel

Morrison, Chicago; the dates, December 9-12, 1918.

The secretary of the association may be addressed at 126 Massachusetts avenue, Boston, Mass.

American Journal of Public Health.

SAVING AND INVESTING

As the war goes on, unexpected avenues of saving are opened up, one after the other, by new Government restrictions. A few weeks ago some two hundred and fifty thousand Illinois owners of automobiles would have considered it impossible to do without their cars on Sunday. Then came the Government order, and suddenly everyone found that his car was a luxury and not a necessity.

Incidentally, owners of automobiles in this state are saving every Sunday at least a quarter of a million dollars in the price of gasoline alone. What they save in tires and repairs amounts to tens of thousands of dollars more.

In all Europe there is not a pleasure car in use. America has not come to that pass as yet, but the compliance with the Sunday motoring order shows that America could come to it and still not suffer a great deal.

Since the beginning of the year the War Savings Committee has been urging the people in this state to save wherever possible and to invest their savings in War Savings Stamps. If the saving brought about by the motorless Sunday were put into War Savings Stamps, that alone would add \$1,000,000 a month to the sales.

Naturally the Government does not want the people to save gasoline on Sundays and then burn as much as possible during the week. If it is necessary to do without the cars on Sunday to save gasoline, it follows that it is necessary to use the cars as little as possible all week for the same purpose.

The War Savings Committee does not ask that everyone in the state lay up his car and use the money thus saved for War Savings Stamps. It merely uses this motorless Sunday as an illustration as how economies may be made in unexpected places if the people really set their minds to it, and suggests that they restrict their expenditures not only for gasoline, but for everything else that is not absolutely necessary and invest what they thus save in War Savings Stamps or other Government securities necessary for the winning of the war.

Correspondence

THE COUNCIL OF NATIONAL DEFENSE.

Oct. 15, 1918.

To the Editor of The American Medical Association:

DEAR SIR: Unless all signs fail, "there is a scrap on." And really, how drab would be the

world without a touch of red blooded discussion. How monotonous the life of a tomcat, if he could not interlard certain other diversions with fur-flying thrills and the excitement of dodging old shoes! And now our good friend Pusey in the JOURNAL issue of October 5th, with all claws out, has fiercely pounced upon Colonel Martin of the Council of National Defense from behind the A. M. A. fence, intent upon "mixing it."

The awful caterwauls of this pusey cat tempt us to throw something.

A few years ago we took occasion to question the architectural harmonies of a new surgical edifice, of which Dr. Martin was chief designer. The doctor took those criticisms in good part, and perhaps that stately pile, the College of Surgeons, which he helped to engineer so well, is the better for our democratic suggestions.

But these recent personal hostilities which some of our A. M. A. officers are stirring up toward Colonel Martin are of a different breed. This attack, in particular by Wm. Allen Pusey, president of Chicago Medical Society and treasurer of the A. M. A., decidedly proves the exception to the rule of good judgment. His attack on Martin is a pointed onslaught upon the activities of the Council of National Defense. Is that attack well advised?

We physicians have a transcendent job calling for whole-hearted, united action in support of the Government. Why then, in face of this double menace of war and epidemic disease should we indulge in petty political hair pulling and particularly in attacking the Council of National Defense?

To raise ill founded suspicion or foster personal prejudice never was so out of place as now.

Colonel Martin is accused of assuming undue authority. Pray, what essential authority does he lack? Is not the Council of National Defense founded upon act of Congress to fit a crisis? And is not his work as chairman of its general medical board highly appreciated and endorsed by the President of the United States and by the executive heads of the Army, Navy and Public Health Service as well as the Provost Marshal General? When have any of these gentlemen protested against his invaluable help in organizing the profession and his cooperative efforts with them for the public good in this time when there is more than a plenty of work for all?

Is it possible that they have delegated to the president of Chicago Medical Society and treasurer of the A. M. A. the function of mauling Martin for them? Hardly.

These gentlemen are in the better business of team work to whip the Hun, and all of them are backing the plans and activities of the Council of National Defense. They are closely associated upon the same board, behind the Voluntary Medical Service Corps in its excellent purpose of classifying us doctors and putting upon definite file of individual loyalty and fitness for this or that service in preparedness. Is it possible that any of us object to such government classification in which we have a deciding voice by the very terms of the Voluntary Medical Service plan? Its very essence is that of an agreement between gentlemen. Are we afraid to strike hands with Uncle Sam upon such a basis? Of course not.

Dr. Pusey seems to imagine this voluntary body a tremendous bug-bear with Martin as its teeth. And he is apparently trying to add to his special line the perquisites of dental extractor.

Colonel Martin is accused of trying to put over his own pet scheme upon the profession. It would be well to know who originated the plan of the V. M. S. which he is perfecting before making this charge.

He is even painted as a medical political burglar about to break into 525 North Dearborn street, Chicago, and make off with us 150,000 doctors in his vest pocket. The answer is of course to laugh, altogether. He is credited with confusing the minds of doctors. We are enclosing a clean, clear cut statement by Colonel Martin regarding the Voluntary Medical Corps. It is rather unfortunate, perhaps, that the Journal of the A. M. A. has not impartially published this statement before in connection with other communications upon the subject.

In fairness to the JOURNAL and all concerned we are requesting you to publish it with our letter, that the profession may act upon their judgment of its face value, for the confusion, if it exists, comes from the smoke of suspicion, groundless alarm and one-sided propaganda, which the opposition has seen fit to use.

Surely we doctors are enough grown up to pick our own diet and if need be digest both sides of a roast, however rare or over-done.

Dr. Pusey's slurs upon the Illinois Committee

of the V. M. S. are humorous though misplaced. That committee which he damns with faint praise was chosen entirely by the medical section of the Illinois Council of Defense, of which he, Pusey, is a member.

And as to newspaper publicity, why so suddenly solicitous? Who of us is thin skinned anyway (except in limiting the other fellow); who unwilling upon occasion? Would the doctor really deny these gentlemen of the committee a bit of a joy ride into public print, while he glides into news column prominence upon the smoothness of carbon dioxide snow?

We write this as one wearing at least four buttons of loyalty: First, of course, is that common button of democratic humanity, not worn upon the lapel, the significance of which we are so apt to forget; the second is the emblem of the A. M. A.; third, the sign of the fourth liberty loan; and, fourth, the button of the Voluntary Medical Service Corps.

As a member of the V. M. S. as well as the A. M. A., we are not aware of the slightest incompatibility in these two organizations; their functions are entirely different. Yes, we paid our dollar, why not? Have we not given Uncle Sam far more without thought of murmur?

Finally, should not we men at home feel proud of every physician who gives freely of his entire service to his government in such a day? Is it really a good time or a commendable thing to knock such men?

So we say, let's save our political bickerings for another time, if we must have them, and turn our whole energy to boosting all men and measures committed to the Allied victory in short order.

Yours sincerely for the V. M. S.

A. M. CORWIN, M. D.,

25 E. Washington St.,

Chicago, Ill.

APPRECIATION OF DR. CRAWFORD.

Rockford, Ill., October 23, 1918.

Realizing the seriousness of the epidemic in Rockford, Ill., caused by influenza and resultant pneumonia, the citizens' executive committee, composed of members of the Council of the City of Rockford, its mayor and the president and members of the Chamber of Commerce, and prominent men and women, herewith acknowl-

edge the great debt we owe to Dr. C. E. Crawford, representative of the State Board of Health, for the splendid service he has rendered in this emergency.

By this means the people of Rockford and the military element of Camp Grant desire to express their full appreciation of the services Dr. Crawford has rendered. Day and night he has devoted his time and energies to the saving of lives in this community, and it is with the deepest sense of gratitude that the community expresses through these channels its appreciation of this service. In organizing and supervising three emergency hospitals he has displayed that rare trait of human interest and supreme sacrifice characteristic of the American physician and surgeon. He has added glory not only to his own name, but to the Illinois Department of Health which he represents.

It is suggested that the Board of Supervisors of Winnebago county, the council of the City of Rockford and the authorities of Camp Grant concur in this memorial of appreciation to Dr. Crawford.

Rockford Chamber of Commerce,
JOHN H. CAMLIN, Pres.
R. D. CHAPPELL, Secy.

Highland Park.....	4,209	1,002	35
Harisburg	5,309	1,103	32
Herrin	6,861	1,859	36
Havana	3,525	543	6
Jacksonville	15,481	1,027	37
Kewanee	13,561	1,247	17
Kankakee	16,000	1,300	55
LaGrange	5,282	454	20
Lake Forest.....	3,349	701	9
La Salle	}	33,399	1,450
Ogelsby			
Peru	}	2,201	425
Momence			
Mattoon	12,582	604	24
Moline	27,451	648	46
Mt. Carmel.....	.....	916	10
North Chicago.....	3,306	629	54
Normal	4,024	310	3
Oak Park.....	26,654	897	41
Ottawa	9,535	2,075	43
Pekin	10,823	1,246	88
Peoria	71,458	4,350	175
Pontiac	6,090	1,540	40
Quincy	36,798	1,730	70
Rockford	65,000	8,050	196
Rock Island.....	28,926	1,133	44
Spring Valley.....	7,035	4,110	(?)
Streator	14,304	1,065	69
Sterling	7,467	403	12
Springfield	61,120	5,548	132
Watseka	2,476	245	2
Waukegan	20,244	3,032	66
Wilmette	4,943	887	8

Public Health

INFLUENZA-PNEUMONIA EPIDEMIC.
IN ILLINOIS CITIES.

DEVELOPMENTS TO NOVEMBER 5, 1918.

Cities	Population	Reported Cases	Reported Deaths
Chicago	2,596,681	48,533	8,056
Alton	22,874	595	23
Bloomington	27,258	2,150	52
Belvidere	7,253	1,996	?
Belleville	21,149	1,075	47
Carmi .....	.....	800	1
Clinton	5,165	1,250	25
Chicago Heights.....	21,693	1,090	57
Cicero	30,000	1,647	109
Cairo ..	15,794	2,448	71
Carlinville	3,616	1,362	38
Charleston	5,884	2,066	28
Decatur	37,525	870	74
Danville	32,261	3,300	90
Elgin	28,203	408	26
East St. Louis.....	74,708	2,211	137
Evanston	28,591	3,070	86
Eldorado	3,336	783	12
Effingham	3,890	657	27
Freeport	19,568	467	25
Harvard	3,008	535	7

INFLUENZA EPIDEMIC

1. In view of the present serious epidemic which is sweeping over the country, the Volunteer Medical Service Corps earnestly invites your attention to the following important action:

Urge upon the members of the Volunteer Medical Service Corps that they instruct families under their care to guard against the epidemic by:

Thorough cleanliness of houses, premises, clothing, utensils, and personal cleanliness.

Avoid stirring up dust.

Wash; scrub; flush; sprinkle; and use soap and water thoroughly.

Gargle and spray the nose and throat with an alkaline antiseptic fluid frequently.

Co-operate at once to the fullest extent with the local, State and National Boards of Health. Urge and co-operate in preparing towns and cities for the epidemic by establishing emergency hospitals in suitable buildings, by districting communities, and apportioning or dividing medical forces comprising men and women physicians and nurses so that no portion of the community is without medical care.

Circulate as thoroughly as possible and explain to the public the warning and directions printed by the United States Public Health Service and by local health authorities.

Urge the importance of fresh air and the avoidance of chill and overheat.

In fighting the epidemic, give no medicine and use no treatment which may depress the vital forces, especially the heart of the patient.

2. The Army and Navy are fighting and conquering Germans. We must fight and conquer germs without taking anything away from the Army and Navy. Don't ask the Army and Navy for medical and surgical supplies. Use simple utensils for sterilizing; the simplest kinds of beds and bedding; make your own masks and dressings, and fight for yourselves.

3. While the epidemic is on, do no surgical operations unless absolutely necessary to save life.

4. In every way in your power urge the members of the Volunteer Medical Service Corps to co-operate to the fullest extent with the United States Public Health Service and with State and local health authorities.

EDWARD P. DAVIS,

President, Volunteer Medical Service Corps.

ATTENTION OF THOSE INTERESTED IN HEALTH MEASURES AND HEALTH INSURANCE

The Health Insurance Commission wishes to call your attention to its public hearings to be held in Chicago, Moline, Peoria, East St. Louis, Springfield, Champaign and Danville. Dates and other information with reference to these hearings are given at the close of this communication.

The Health Insurance Commission was created by act of the General Assembly approved June 23, 1917. This act provides that the commission shall

First—Investigate—

(a) Sickness and accident of employees and their families not compensated by workmen's compensation.

(b) The adequacy of present methods of preventing and meeting the losses caused by such sickness or injuries, either:

1. By insurance companies.
2. By fraternal or other benefit associations.
3. By employers and employees jointly.
4. By employers alone.
5. By employees alone.
6. Or otherwise.

(c) Such definite proposals for legislative measures to prevent and meet such losses as have been proposed in this or other states.

Second—Recommend ways and means for the better protection of employees from sickness and accident and their effects, and the improvement of health of employed persons and their families in the state.

Third—Hold public meetings in different parts of the state.

Fourth—Submit a full and final report to the General Assembly of 1919, including such recommendations for legislation by bill or otherwise as in its judgment may seem proper.

Among the more important subjects the commission has investigated are the following:

- (1) The extent of sickness and premature death;
- (2) The more important diseases and physical defects and their prevalence;
- (3) The relation between occupation and disease;
- (4) The extent and character of disease by communities, rural and urban, as reflected in vital statistics and reportable diseases;
- (5) The economic loss due to sickness in several thousand cases;
- (6) The relation between sickness and poverty and the effect of sickness upon standards of living;
- (7) The causes of and responsibility for sickness;
- (8) Methods of preventing disease—in a general way;
- (9) The existing provision for the care of the sick—hospitals, dispensaries, sanatoria, etc.;
- (10) Medical attendance, physicians' fees, etc.;
- (11) Medical examination and care of school children;
- (12) Provision made for medical care and financial benefits by employers, unions, fraternal organizations, foreign societies, "sick clubs," and casualty and other insurance companies;
- (13) Group life and group health insurance; and
- (14) Various programs, among them compulsory health insurance.

Data bearing upon these subjects have been secured from public records, by questionnaires, correspondence and conferences, and by investigations made by the Commission's agents. The Commission has had the co-operation and assistance of many persons, among state and local health officers, physicians, superintendents of hospitals and dispensaries, nurses, secretaries of charity organization societies, employers and officials of employers' associations, union officials, officers of insurance and fraternal orders, and school authorities. The Commission is under great obligation to all of these for much valuable data, an obligation all the greater because much time has been freely given when the war is making unusual demands upon the time and attention of all our citizens.

Now that its field investigations are nearing an end and it has a great variety of proposals under consideration, the Commission desires to hold public hearings from which it expects to be able to secure further data and the matured views of experienced men. Pertinent facts bearing upon the subjects coming within the scope of the Commission's investigations, and especially *constructive suggestions* with reference to *sickness, prevention and the reduction of the burdens connected with disease*, are desired.

The schedule of hearings is as follows:

Chicago, in Room 104 (North Corridor, first floor), City Hall:

Thursday, November 7:

Morning, 9:00 to 12:00;

Afternoon, 2:00 to 5:00;

Evening, 8:00.

Friday, November 8:

Morning, 9:00 to 12:00;
Afternoon, 2:00 to 6:00;
Evening, 8:00.

Saturday, November 9:

Morning, 9:00 to 12:00;
Afternoon, 2:00 to 5:00;
Evening, 8:00.

Moline, in Court Room, City Hall, Monday, November 11:

Morning, 9:00 to 12:00;
Afternoon, 1:30 to 4:00.

Peoria, in Council Chamber, City Hall, Tuesday, November 12:

Morning, 9:00 to 12:00;
Afternoon, 2:00 to 5:00;
Evening, 8:00 to 10:00.

East St. Louis, in City Hall, Wednesday, November 13:

Morning, 9:00 to 12:00;
Afternoon, 1:00 to 4:00.

Springfield, in Senate Chamber, The Capitol, Thursday, November 14:

Morning, 9:00 to 12:00;
Afternoon, 2:00 to 6:00.

Champaign, in Courthouse, Friday, November 15:

Morning, 9:00 to 12:00;
Afternoon, 2:00 to 6:00.

Danville, in Council Chamber, City Hall, Saturday, November 16:

Morning, 9:00 to 12:00;
Afternoon, 1:30 to 5:30.

The limited time available at these hearings will be divided so that representatives of all groups and types of institutions may have an adequate hearing. The Commission feels that it will be well, however, for those interested to take up this matter in an organized way and select their representatives to appear at the hearings. Of course, individuals desiring to be heard independently of any organization will be given an opportunity. The approximate time available for the representatives of each group is indicated in the accompanying letter. Will you not be good enough, as soon as you have perfected your plans for participating in the hearings, to communicate with our secretary (H. A. Millis, 402, 35 N. Dearborn Street, Chicago)?

THE HEALTH INSURANCE COMMISSION,
WILLIAM BEYE, Chairman.

Health Insurance Commission of the State of Illinois
Chicago, Illinois, Oct. 19, 1918.

THE SECRETARY OF THE MEDICAL SOCIETY:

Dear Sir: The Health Insurance Commission sends you herewith an announcement of public hearings to be

held in Chicago, Moline, Peoria, East St. Louis, Springfield, Champaign and Danville. Will you not kindly bring it to the attention of the members of your organization and take such steps as are necessary to secure a proper representation of the physicians at the hearings in the several places?

As you will observe, the Commission has been investigating many subjects upon which the physicians can give expert testimony and some of which are of first importance to them. From the doctors the Commission expects much information and valuable constructive suggestions in regard to health administration, medical examination of school children, nursing, the public dispensary, occupational disease, infant welfare, and the causes of and problems connected with sickness. The physicians have also much valuable knowledge of contract practice in one connection or another. Those who are practicing in wage-earning communities are naturally interested in the subject of compulsory health insurance, a subject the Commission is required to consider and report on.

This communication is sent to each county or city medical society, to the State Medical Society and to the American Medical Association. Health work will be the subject for hearings in Chicago at the session Friday morning, November 8. The Health Departments of Chicago and neighboring cities can best be heard at that time. The evening of the same day is reserved for the practicing physicians of these same cities. It will perhaps be most satisfactory if the State Medical Society, the American Medical Association and the Chicago Medical Society co-operate in making a satisfactory arrangement for this particular session. It is desired that both the health officers and the practicing physicians of the other cities in which hearings are held and in the places nearby be properly represented at the hearings outside of Chicago. About two hours will be available in each of the six places. It is suggested that the secretary of the medical society in each county or city in which hearings are held should take up the matter with the secretaries of neighboring societies and secure a representation satisfactory to the profession. Perhaps there are important differences of opinion among physicians in regard to some of the things to be discussed. If so, it is suggested that such differences be given due consideration in selecting representatives to appear before the Commission in order that it may secure the greatest aid from the hearings. The Commission has but one interest, viz., to secure the best information, to arrive at the soundest conclusions, and to be able to offer the best recommendations for meeting the problems dealt with.

Will you not take this matter up and advise me as to the plans you develop for participation in these public hearings? As secretary of the Commission I shall be glad to answer questions or to confer with you with reference to this matter.

Very truly yours,

H. A. MILLIS,
Secretary.

Society Proceedings

COOK COUNTY.

CHICAGO MEDICAL SOCIETY.

Regular Meeting, October 9, 1918.

1. Air in Ventricles of the Brain. (Illustrated by Lantern Slides)—Harold N. Moyer, Hollis E. Potter, Paul F. Thuresson.
2. Needs of the Medical Corps of the United States Army—Lieut. Colonel E. J. Doering, M. C.
Discussion—Major John M. Dodson, M. C.
3. Influenza—Lieutenant Commander Owen J. Mink, Great Lakes Naval Training Station.
Discussion—Chas. J. Whalen, Frederick Tice.

Regular Meeting, October 16, 1918.

1. What Chicago Is Doing for Her Deaf—Charles H. Long.
Discussion—Miss Mary McCowen, Daniel MacMillen.
2. Improvements in the Technique of Cesarean Section—J. Clarence Webster.
Discussion—J. B. DeLee.

Regular Meeting, October 16, 1918.

1. What Chicago Is Doing for Her Deaf—Charles H. Long.
Discussion—Miss Mary McCowen, Daniel MacMillen.
2. Improvements in the Technique of Cesarean Section—J. Clarence Webster.
Discussion—J. B. DeLee.

CHICAGO LARYNGOLOGICAL AND OTOLOGICAL SOCIETY.

The regular monthly meeting of the Chicago Laryngological and Otolological Society was held on Tuesday evening, December 12, 1917, at 7:30 in the South Dining Room of the Palmer House.

The President, Dr. Stanton A. Friedberg, in the chair.

PRESENTATION OF CASES.

Dr. Joseph Beck exhibited the same little patient, shown at the last meeting, with dentigerous cyst. He had operated since that time and found a cyst with teeth in. It was easily peeled out without entering the antrum. The cavity was lightly drilled with a bur and subsequently bone wax was packed in fairly tight. The anterior surface of the superior maxilla was wired to the alveolus and two or three silk sutures were introduced. The wax came out gradually but suddenly a large piece was expelled and at this time the cavity was only half filled with granulation tissue. He considered the operation a partial failure. The depression in the hard palate found before the operation still existed, but he intended to make a section in a sort

of a flap and push it up and fill up the cavity. He was showing the case now so as to judge fairly how difficult it was to cure these conditions.

Dr. H. L. Pollock reported on the case of dentigerous cyst he showed at the November meeting. He had operated the previous day and removed the cyst which had filled up the entire antrum. It had absorbed the anterior wall of the antrum and on removing the sac he found that it contained the third molar. After removing the cyst he sewed up the slit and then filled up the cavity with bismuth paste. (The specimen and some stereoscopic pictures were exhibited.)

Scientific Program

Dr. John A. Cavanaugh presented a paper entitled "Lingual Abscess With Report of Two Cases."

(Abstract)

The author reported two cases of lingual abscess, one acute and the other chronic, seen during the past year, both on the base of the tongue. The cause was vague but he believed some form of trauma which lowered the resistance of the organ and the virulence of the invading organism to be the most logical etiological factors. Following a resume of the literature and usual findings in such cases the following case reports were given as illustrative of these two types of abscess.

On the morning of April 5, 1917, he was called to the home of Mrs. K. M., age 27 years. She was in bed in a semi-sitting position. Her color was good, but she had an expression of anxiety. Speech seemed to be difficult and breathing rather labored. Temperature, 101; pulse 120; respiration 24. No apparent swelling of the neck but palpation caused the patient to flinch and say it was painful; cervical glands enlarged. When asked to open the mouth she did so slowly and opened it about half way, saying it hurt to open it wider. Marked coated tongue; when asked to protrude it she did so slightly, complaining of pain. Anterior half looked practically normal in size, but the posterior part was swollen about twice its normal size and very tender to pressure. The tonsils were swollen and debris present in the crypts. Some edema of the uvula. With a laryngeal mirror he was able to elevate the palate and examine the base of the tongue. The epiglottis was swollen about twice its normal size and pushed back over the laryngeal opening so he was unable to see into the larynx. He did not try to pull the epiglottis forward for fear any manipulation might tend to increase the edema. On palpating the mass he was sure he ascertained fluctuation. She was eight months pregnant. Present trouble started about one week before; had a stiffness of the neck and throat and used the ordinary home remedies for three days, but did not improve; she could not talk well and it hurt to eat so she went to see her family doctor who said she had tonsillitis and treated her for the same. She went to see him again in two days, as her condition seemed to be growing worse; he painted her throat with medicine and told her to continue the treatment. That night she had a choking spell and could hardly

breathe, the family doctor was called and he recommended hot applications for the neck and a gargle. The next day her condition was worse and the family insisted on consultation; the doctor then gave antitoxin and suggested waiting. The following morning Dr. Cavanaugh was called.

Previous history: Patient had always been in good health except for sore throat; was married last July.

Family history: Father and mother living and well. She has four brothers and three sisters living and well; one sister was drowned in the Eastland disaster.

Dr. Cavanaugh ordered the patient sent to the hospital and on the afternoon of the same day he operated. She could not lie down, so he had her retain the sitting position and applied crystals of cocaine to the surface of the abscessed area. Having done this he placed the index finger of the left hand back beyond the mass, then followed with a curved scalpel, making an incision in a postero-anterior direction and in its center; a large quantity of pus and blood was expelled, and the patient said, "Oh, I feel better." He then made a couple of incisions into the anterior surface of the epiglottis because of the marked edema. Breathing was better and the patient coughed up a great deal of mucous. She was taken back to bed and an ice pack applied to the neck. She could not lie down. He ordered instruments ready in case of an emergency tracheotomy and remained at the hospital to see how she would respond. In half an hour he was called to the room and found the patient gasping for breath; he inserted his finger into the throat and pressed the epiglottis forward; a considerable thick mucus was coughed up and again she felt better; this occurred three or four times when it failed to give relief and the patient became cyanotic. He then did a rapid tracheotomy, introduced a tube and fed the patient oxygen; she quickly recovered. He made a tent over her bed and kept up continuous steam vapors.

The following morning, April 6th, the patient was feeling very good. Temperature, 100; respiration, 28; pulse, 130. That evening she began to have labor pains. Temperature, 102; respiration, 32; pulse, 140. The family doctor was called and he pronounced the baby dead and advised watchful waiting.

The following morning, April 7th, Dr. Cavanaugh removed the tracheotomy tube and closed the wound; the patient continued to breathe without difficulty so he pulled the wound together with adhesive. Labor was induced that morning and about eleven o'clock he received word that the doctor had delivered a six-pound baby girl, alive and in good condition. From that on temperature, pulse and respiration gradually returned to normal and mother and baby left the hospital April 19th, two weeks from the day of entrance.

Cultures were taken in both media and blood agar. The broth culture showed a cloudiness of the media in eight hours. The blood agar showed a culture present in six hours. A plate blood agar showed hemolysis.

The second case, Miss B. H., age 29 years, consulted Dr. Cavanaugh at his office August 28, 1916, complaining of the feeling of a lump in her throat which she would try to cough out and swallow, each time she

swallowed it seemed to feel better, but only for a second, otherwise she had no discomfort. Gave a history of syphilis and having had salvarsan a couple of times. She had a pyonephrosis of the left kidney. Was quite nervous and restless. A blood Wassermann reported negative.

Tonsillar glands were slightly palpable; no tenderness; teeth apparently in good condition; tongue freely movable, but patient said it felt a little stiff. Tonsils small and apparently innocent. No lymphoid enlargement at the base of the tongue or dilated veins. Epiglottis negative, hypopharynx and larynx negative, some small glandular enlargements on pharyngeal wall. Post nasal space negative. He gave her placebos and had her return in about a week, when he introduced an esophagescope into the esophagus, but found nothing. He told her to use steam inhalations and apply ten per cent. argyrol to throat twice daily. He made a diagnosis of globus hystericus. She then disappeared until May 29, 1917, when she returned complaining of some pain in the throat and a feeling of fullness and said she could not swallow right as there seemed to be something in the way. Making pressure on the tongue with the tongue depressor caused her to complain of pain; there was no apparent inflammation of the throat, but there seemed to be a little elevation of the dorsum of the tongue of the left side and palpation revealed a small mass the size of a hazelnut which was tender. Temperature and pulse were normal. He could not detect fluctuation. Transillumination with the pharyngoscope under the tongue showed a definite shadow outlining a mass. He introduced an aspirating needle and drew off about a dram of pus from which cultures were made that showed staphylococcus. The mass was incised and the patient made prompt recovery. Broth cultures showed cloudiness and sediment in forty-eight hours; agar slants gave a slight culture in thirty-six hours, abundant in forty-eight hours.

The sensation of foreign body in the throat which this patient had complained of the past nine months disappeared, and he believed that this abscess was present and lying dormant at the time. It had been suggested that this might have been a broken down gumma, but he did not think so, because healing was prompt and no specific treatment had been given for over a year. There was no necrotic tissue in the abscessed area.

DISCUSSION.

Dr. L. W. Dean, (Iowa City, Iowa), said that about four weeks previously a patient came into his service with a diagnosis of abscess of the tongue; the patient himself had made the diagnosis. He said that about ten days before he had pain on swallowing which gradually increased and with the pain the swelling of the tongue developed until his mouth was filled and he was unable to swallow. The patient came with the mouth partially open, the swollen tongue protruding between the incisors and the mouth could not be closed. Because of the swelling, further examination of the mouth could not be made. The breathing was through the nose; temperature 103, no cervical adenitis, no swelling of the salivary glands. An examination was made under general anesthetic. Palpation of the back of the tongue with the finger revealed a mass apparently the size of a small hen's

egg which had no fluctuation. The mass had the same feel as a sarcoma of the base of the tongue. Using a curved bistoury, the mass was incised with the escape of just a little pus. There was a marked edema about the epiglottis. The patient showed evidence of laryngeal obstruction during the operation and a tracheotomy was performed. Ten hours after the operation the larynx was completely occluded, justifying the tracheotomy. The patient made a good recovery in about ten days.

Dr. Joseph Beck stated that he had had several cases of abscess of the tongue, which he reported at the last meeting of the American Medical Association. One was not strictly an abscess of the tongue but the case was interesting in this connection. The patient was brought in by a physician who said he had been with him practically all the time for the two previous days. The patient had complained of difficulty in swallowing and breathing and the doctors made a diagnosis of probable abscess of the tongue. Local applications of a mild astringent gave some relief, but finally the distress in breathing became so great that the patient was brought to the hospital in a cab. He tried to walk from the door to the operating room but fell into the Doctor's arms and appeared to be struggling for air. Dr. Beck made a rapid tracheotomy, but there was no respiratory response in spite of all possible efforts. Post mortem showed an infected lingual thyroid. These cases are very rare. In a case of acute abscess of the tongue in which he made a deep incision in the tongue and evacuated the pus and gave relief from the edema which was present, he intubated, employing a large tube that would not be expelled so easy, which he felt sure did all that a tracheotomy would have done, with less traumatism. Some of these cases of abscess of the tongue had been shown by the work of Kümmel to be chiefly syphilitic, a secondary infection or a gumma.

Dr. E. B. Wunderlich thought if pyorrhea was present in a tooth that a secondary infection from syphilis would be very likely to cause an abscess. He had had a case of this sort in which the patient died ten months later. Post mortem showed a syphilitic condition and also pyorrhea. In another case there was marked pyorrhea.

Dr. Charles H. Long cited a case which he had under observation. The patient was a woman aged fifty-four years, who had a constant burning, sticking pain in the back of the tongue. The lingual and faucial tonsils were hypertrophied; the tongue itself was not swollen, not painful on pressure. There was no cough. The patient had lost twenty pounds in weight during the last nine months. There was no record of globus hystericus. The Wassermann test was being made, but he felt that the cause of the trouble had not yet been discovered. He doubted if the term "globus hystericus" had any real place in medicine. (Later; report Wassermann negative; diagnosis, without microscopical report, probable carcinoma of the tongue.)

Dr. Stanton A. Friedberg was of the opinion that etiologic factors in the acute and chronic cases were entirely different. He thought infection could very readily occur through the lingual tonsil and through the papilla. The most striking characteristic was the difficulty and inability to move the tongue. Sometimes there would be an indurated area but seldom definite fluctuation. One other condition that might cause confusion in the acute cases was rheumatism of the tongue, where pain and stiffness were complained of on movement of the tongue.

Dr. Cavanaugh, closing, believed Dr. Dean might be correct in advising tracheotomy in the acute cases; he considered it a safe procedure.

As to Dr. Beck's intubating such cases, he considered this an excellent plan if one was thoroughly skilled in the introduction of the tube; otherwise, he thought tracheotomy was preferable.

He agreed that the abscess might occur as a result of infection from pyorrhea, but it had not been definitely decided as to where the infection came from.

He believed Dr. Long was right in thinking that globus hystericus had no place in medicine and thought the use of the term was often due to ignorance of the real trouble.

Dr. George W. Boot presented a paper entitled: "Diagnosis of Intracranial Ear Complications, With Report of Cases."

(Abstract)

These were brief accounts of some of the complications he had had in middle ear conditions. From these and from other cases not reported he concluded that the diagnosis of these complications was not easy, but required careful examination of the history, the symptoms, the functional tests and the laboratory findings.

In extra-dural abscess the most characteristic symptom was the severe one-sided headache in a patient who had or who had had a running ear.

In abscess of the left temporo-sphenoidal lobe the most characteristic symptom was loss of memory for names, with weakness of the facial muscles on the right side. If the abscess was in the right temporo-sphenoidal lobe memory for names was not lost unless the patient was left-handed, in which case it might be lost. Right-sided facial paresis might be present.

If the patient had a labyrinthitis, complete labyrinthitis, complete labyrinthine deafness, anomalous pointing reactions, headache and choked disc, cerebellar abscess should be suspected, and when exploring for the abscess it should be remembered that it was apt to lie either near the internal meatus or over the saccus endolymphaticus. If the patient had rigid neck, positive Kernig and cloudy cerebrospinal fluid with increased polynuclear count the diagnosis of purulent meningitis was settled.

In the cases of thrombosis of the superior longitudinal sinus there was a lack of mental ability, an inability to comprehend what was said and to reply, that was quite characteristic when once seen, but which was difficult to describe. Nose bleed was a symptom to which Dr. Boot was inclined to attach considerable importance in the diagnosis of thrombosis of the superior longitudinal sinus.

Syphilis of the vessels, syphilitic meningitis and gumma usually lack the preceding middle ear supuration. The symptoms were not apt to be confined to one side of the head and the Wassermann on the blood and cerebrospinal fluid gave an indication of the cause of the symptoms.

In conclusion, he said that when in doubt it was probably better to explore the brain than to omit such exploration. The exploration was best done by means of a double bladed explorer similar to the one designed by Dr. Gifford of Omaha.

DISCUSSION.

Dr. Joseph Beck thought the presentation of Dr. Boot was wonderful and that the county and city was to be congratulated on having a man on the Staff of the County Hospital who would devote so much time to that institution. The cases at the County Hospital were usually so severe that very few of them recovered because they required such extensive and experienced after-care.

He disagreed entirely with Dr. Boot's method of drainage with the rubber tube. It was obsolete and should not be employed. The abscess should be drained with rubber tissue, a sort of a cigarette drain, because the tube could fill up and become blocked with material from the abscess.

He had had the same experience as Dr. Boot in coming up to the abscess with a needle and not into it, the needle simply making an indentation and not puncturing the wall, but on post mortem the abscess was found.

He was glad to hear a new symptom of a thrombus of the longitudinal sinus, and wished Dr. Boot to state specifically regarding the other case of longitudinal sinus thrombosis, because he thought he had such a case at present in which he had made a diagnosis of typhoid fever. Nose bleed and headache were both present.

He had heard nothing mentioned about employing the symptom known as the Crow and Beck of Vienna, compression of the opposite side internal jugular and examination of the fundus oculi finding distended veins.

He thought some criticism might be expressed in making a diagnosis of periarthritis in connection with a mastoid. Why not think of a sinus thrombosis right away and explore?

Dr. George E. Shambaugh thought that the intracranial complications met with in connection with purulent disease of the middle ear are the most trying cases with which the otologist has to deal. The most frequent of these complications appear to be the extra-dural abscess, a complication which occurs so frequently with such indefinite symptoms that it is difficult to recognize clinically. It seems not unlikely that many of the cases of brain abscess owe their origin to a neglected extra-dural abscess which remained unrecognized until the formation of the brain abscess. He cited a couple of cases illustrating the difficulty in recognizing the extra-dural abscess.

One case was a woman of about fifty years of age, who consulted him several years ago, because of a persistent one-sided headache which had lasted for several months. Examination of the case discovered nothing intra-nasally to account for the headache. She had never been a victim of migrainc. There was a history of discharging ear many years before on the affected side, but she stated that she had not had any discharge from the ear for several years. Examination, however, disclosed a marginal perforation in the upper posterior quadrant and the introduction of a cotton swab detected the slightest trace of moisture, which had, however, the characteristic odor of a bone invading disease. On operating on the case the mastoid was found entirely sclerosed, a very much contracted antrum, and at the upper posterior angle was found a discolored tract leading off upwards and posteriorly. The tract was opened up for perhaps fully half an inch from the antrum, when a small extra-dural abscess was uncovered, containing only a few drops of thick creamy pus. The case made an uneventful recovery.

Another case was that of a physician, who came complaining of a persistent discharge from an ear which had been operated on for acute mastoid complication a couple of months previously. The patient seemed to be annoyed by discomfort in the head, which could hardly be described as a headache. There was a profuse purulent discharge escaping from a fistula in the original mastoid opening, with a slight temperature of not over 99.5 degrees. In exposing the mastoid it was found that the previous operation was limited to a small passage made to the antrum. The whole lower half of the mastoid still remained intact and contained large pneumatic spaces filled with pus. A complete exenteration of the mastoid was performed and it was believed that the persistence of a discharge was due especially to the involvement of the cells at the tip. The patient, however, did not get well and the persistence of symptoms in spite of the complete exenteration of the mastoid, made the diagnosis of some extra-mastoid complication probable. Another operation was undertaken and at the upper posterior angle of the mastoid an extra-dural abscess was discovered, the size of a small hazel nut and located fully three-quarters of an inch from the antrum.

It was in this particular location where the extra-dural abscess was most likely to be discovered and in this connection it was well to remember that the marginal cells of the mastoid, that is those located at a distance from the antrum, were, as a rule, much larger than the pneumatic

spaces located in proximity to the antrum. This applied not only to the cells occupying the tip of the mastoid, but to those found along the posterior margin. The larger the cell involved in a suppurative process the less chance it had of getting well spontaneously.

To be continued

Personals

Dr. Chas. C. Winning, E. St. Louis, has been appointed assistant county physician to succeed Dr. Roy Barker, who has entered military service.

Dr. C. C. Montgomery, Lincoln, was honorably discharged from the service owing to physical disability and has returned from Ft. Oglethorpe.

Dr. F. B. Fahrney, La Salle, has been commissioned acting assistant surgeon in the U. S. Public Health Service and ordered to report at Chester, Pa.

Dr. J. M. Miller, Villa Grove, was elected vice-president, and Drs. C. W. Hopkins and G. G. Dowdall, Chicago, members of the executive committee at the meeting of the American Association of Railway Surgeons at the convention in Chicago last month.

Dr. A. F. Stewart, who was honorably discharged from the service some months ago because of physical disabilities, has removed from Oneida to Galesburg and has resumed practice.

Dr. Samuel Dodds, Cairo, has responded to the Governor's appeal for help and has returned to state institution work. For the past thirteen years Dr. Dodds has been engaged in general practice and surgery in Cairo, where he was also a member of the Cairo Board of Education, coroner of Alexander County, member of Pension Board, and of the Army Medical Advisory Board, 24th District. He was a pioneer in that section in the fight against tuberculosis. Dr. Dodds is now on the staff at the Jacksonville State Hospital.

Dr. Adolphe R. Caron has been operated on in the Passavant Hospital. He expects to enter Red Cross service in France.

Dr. Philip F. Gillette, Elgin, has returned to his old position as assistant physician to the Elgin State Hospital.

Dr. H. I. Davis has been commissioned for service with the American Red Cross in France.

Drs. Samuel J. Walker, Chicago, and Charles B. Gibson, Chicago, are members of the Red Cross Commission that has started for Greece.

Major Edmund J. Doering, M. C., U. S. Army, president of the local board of examiners for the Medical Corps of the Army, has been promoted to the rank of lieutenant-colonel.

Dr. Frazier N. Cloyd, Danville, has been appointed surgeon for the New York Central Lines, to succeed Dr. George L. Williamson, Danville.

Dr. Henry F. Lewis resigned September 30 as professor and head of the department of obstetrics and gynecology in the School of Medicine of Loyola University.

Dr. James J. McGuinn, Chicago, has been appointed assistant commander of the medical zone in charge of the reconstruction of wounded soldiers in France by the American Red Cross and has started for his new post of duty.

Major Milton Mandel, M. C. U. S. Army, has been relieved from duty with Base Hospital No. 12, and has been appointed senior division consultant in general medicine to the Second Army Corps.

Major John M. Dodson, Chicago, medical aide to Governor Lowden, has perfected a plan whereby selective draft men in Class B, which is the remediable group, will be able to secure treatment before being inducted into service.

Dr. Jonathan L. Wiggins, East St. Louis, has been appointed by the director of Registration and Education of the State of Illinois a member of the examining committee of medicine in place of Dr. Carl E. Black, Jacksonville, who has resigned to go abroad with the Red Cross commission to Greece.

The following Chicago physicians have been commissioned in the Medical Corps, U. S. Army:

Lieutenant Colonel—Edmond J. Doering.

Majors—Joseph C. Beck, N. C. Gilbert.

Captains—Henry P. Bagley, Frederick P. Blayney, John F. Clark, Charles L. Conroy, Francis Achilles Davis, Louis H. Friedrich, Jas. Graybeal, Harold K. Gibson, John M. Griffin, George B. Hassin, Burton Hazeltine, Francis P. Horan, Clarence D. King, Francis P. Machler, Arthur W. McClave, Otis M. MacLay, Jacob Myers, Gifford Osborne, Lucius B. Phelps, Ernest W. Pothoff, John H. Reeves, Charles E. Secler, Stephen G. West, Ulysses G. Windell.

First Lieutenants—William R. Abbott, Geo. L. Apfelbach, E. W. Andrews, Jr., Morris L. Arkin, Vahan I. Armen, Michael J. Badzmerowski, Christian M.

Bernsten, Samuel A. Braun, Jas. E. Brooks, Don D. Burns, Forrest R. Butterfield, Frederick G. Carls, Ernest S. Cleveland, Chas. H. Connor, Chas. G. Cooley, Henry T. Cummings, Thos. F. Doyle, Jas. M. Durin, Alfred O. Ellison, Wolf Z. Felsher, Elmer H. Flinn, Oscar B. Funkhouser, John H. Gaff, Chas. F. Goetzinger, Leon Grotowski, William P. Gunn, Emory L. Hess, Willard G. Jeffries, David R. Johns, Otto L. Kahn, Henry R. Kinney, Frank C. Kloos, John E. Kloos, Sol Bernard Kositchek, Jove H. Kramer, Harry A. Kraus, Clarence A. Krogh, Jerome F. Kucera, Thomas F. Leatherwood, Victor N. Lamarre, Jack R. Lavieri, Thomas J. Lamping, Leslie M. Maitland, John W. Miller, Mac L. McLaughlin, Samuel Ochs, Paul O. Owsley, Louis J. Pint, Imas P. Rice, Frederick M. Schwarzel, Samuel Sher, Emanuel C. Skembare, Ralph W. E. Spreng, Robert E. Stobie, A. Streich, Frank E. Tinker, Benjamin F. Tubergen, Walter Tyler, Houston W. Vernon, John M. Vitullo, Wm. J. Wallingsford, Jos. G. Weidder, Earl E. Wilcox, John B. Wilcox, Geo. L. Wilson, Jr., Edwin F. Winterberger.

The following Illinois physicians have been commissioned in the Medical Corps, and have reported as indicated:

Major—Henry S. Keller, Edwardsville, Ft. Bliss.

Captains—W. A. Balcke, Pekin, Fort Riley; Henry H. Bryant, Galesburg; J. H. Bryant, Galesburg, Camp Grant; L. A. Burhans, Peoria, Camp Oglethorpe; Chas. G. Davies, Blue Island; Francis H. Fleege, Galena; Thomas W. Floyd, Peoria, Camp Custer; John C. Furlong, Spring Grove; Wm. A. Gott, Washington; J. C. Griffith, Bushnell, Camp Grant; Arthur Lee Hagler, Springfield, Fort Oglethorpe; J. D. Hawks, Cambridge, Camp Custer; Charles E. Hill, East St. Louis; Chas. P. Horan, Evanston, Fort Oglethorpe; Everett Mayos, Watertown, Camp Grant; Frank McLaughlin, Peoria, Camp Bradley; Frank G. Morrill, Havana; W. G. Murray, Kankakee; Edw. H. Parry, Galesburg; H. H. Rogers, Canton, Camp Shelby; H. H. Sheets, Oregon, Camp Oglethorpe; Otis, O. Stanley, Urbana; Louis N. Tate, Galesburg, Fort Riley; L. G. Voigt, Freeport, Camp Grant; John C. West, Batavia; Harry Wood, Batchtown, Camp Meade; Willis Terry Zeigler, Canton, Fort Riley.

First Lieutenants—Cecil H. Baker, Altamont; Dr. Balensiefer, Peru, Camp Oglethorpe; Roy F. Barker, East St. Louis; Dr. Charles Bates, Roodhouse; Geo. S. Betts, Banner, Fort Oglethorpe; Edmund A. Behrendt, Bloomington; Leon Beilin, Springfield, Camp Taylor; Geo. B. Dormàn, Waukegan, Fort Oglethorpe; John D. Byrne, DuQuoin; Clyde L. Casey, Jr., Carbondale, Camp Greenleaf; W. D. Chrisman, Bradford, Camp Grant; Walter M. Caton, Mason City; Wm. T. Collins, Freeport; H. A. Cunningham, Salem, Fort Riley; Chas. H. Dowsett, Woodlawn; H. L. Fisher, Kewanee, Montgomery, Ala.; Walter E. Foster, Richmond; Isaac F. Freemel, Jacksonville; August M. Fromm, Ramsey; Frederick G. Green, Bloomingdale; Burt H. Hardinger, Mattoon; M. L.

Hartman, Garden Prairie, Fort Riley; Louis Hartrick, Seymour; Leonard J. Hensler, Carrolltown; Hamilton T. King, Joliet; Dana M. Littlejohn, Pana, Fort Oglethorpe; Henry A. Long, Effingham; David H. McCarthy, Springfield; Thomas H. McLin, Jacksonville; Homer P. MacNamara, Granite City, Fort Riley; John C. Mettstein, Effingham; Clarence W. Miligan, Springfield; Ernest Montgomery, Cowden; Arthur C. Moorehead, Leland; John C. Murphy, Ridgeway; Warren G. Murray, Kankakee; C. M. Murrell, Matherville; M. A. Nix, Princeton, Fort Riley; S. M. Pittman, Greenbush, Camp Oglethorpe; Walter J. Ream, Spring Valley; C. E. Robb, Moline, Fort Oglethorpe; Jacob Rodge, Apple River; James C. Russell, Oakford; B. F. Schroeder, Princeton, Fort Riley; Jas. R. Sholl, Peoria; Richard V. Spencer, Chicago Heights; Clyde L. Vanatta, Hidalgo; Bert L. Vilne, Cicero; Enfer C. Webster, Bible Grove; Geo. W. Westemeier, Carlinville; Clifford V. Winsett, Tampico.

Second Lieutenant—C. A. Moore, Carlinville.

News Notes

—The annual meeting of the American Public Health Association was postponed to December 9, on account of the influenza epidemic which prevented many members in the East from attending at the date in October originally announced.

—The following doctors of Montgomery County are in the service: Doctors Adams, Barlow, Bennett, Bullington, Canady, Clotfelter, Cox, Douglas, Ford, Griswold, Hamilton, Hayes, Hoyt, Kilton, Lindberg, Luell, Telfer, Tupper and Zoller.

—It is announced that the new Field Columbian Museum, Grant Park, Chicago, has been offered to the government as a war hospital, and that the offer has been accepted. The building is to be remodeled so as to accommodate 4,300 sick and wounded soldiers, and the construction of a number of buildings for the use of nurses is to be begun at once. The building is on a site 6 acres in extent.

—Dr. Ethan Allen Gray continues his association with Edward Sanatorium in the capacity of consulting physician. Close cooperation has been entered into between the two institutions of Fresh Air Hospital and Edward Sanatorium to the great advantage of the patients and to both institutions. Edward Sanatorium was not intended for very sick patients so that far advanced cases are now sent to Fresh Air Hospital, where

they remain until they are able to be about and are then transferred to Edward Sanatorium.

—At the meeting of the Executive Committee of the Chicago Tuberculosis Institute held Monday, October 21, Herbert W. Gray, M. D., was unanimously elected attending physician for Edward Sanatorium at Naperville, Ill. Dr. Gray begins his service at the sanatorium immediately and will examine all patients for admission to the institution at his office at 30 North Michigan boulevard, Room 1308. His office hours are from 1 to 2, and physicians desiring to send patients for examination will kindly send patients at that time.

Marriages

WILLIS TOWNSEND HINMAN to Miss Hazel Vance, both of Moline, Ill., September 24.

WILLIAM D. SNIVELY, Rock Island, Ill., to Miss Emma G. Butler of Washington, D. C., September 12.

LIEUT. MICHAEL FRANCIS MCGUIRE, M. R. C., U. S. Army, Chicago, to Miss Rhea F. Ferriu of Jamestown, N. Y., September 25.

LIEUT. ROBERT PERCIVAL PARSONS, Assistant Surgeon, U. S. Navy, Chicago, on duty at Deer Island, Boston, to Miss Marion L. Murray of Allston, Boston, recently.

LIEUT. EDWARD BUCKMAN, M. C., U. S. Army, Chicago, on duty with the Eighty-fifth Division, Camp Custer, Mich., and now overseas, to Miss Alfreda Hartenstein of Vicksburg, Miss., at Battle Creek, Mich., recently.

Deaths

EDWARD J. BUCKLEY, Oak Park, Ill.; Rush Medical College, 1904; aged 40; died at the home of his parents in Lombard, Ill., September 24.

JOHN FLOOD, Chicago; Bennett Medical College, Chicago, 1873; Rush Medical College, 1889; aged 68; died at his home, September 28, from pneumonia.

VACHEL THOMAS LINDSAY, Springfield, Ill.; Miami Medical College, Cincinnati, 1869; aged 75; died in the Springfield Hospital, September 20.

LEO HENRY RAHLING, Chicago; Northwestern University Medical School, 1906; aged 36; died at his home, September 30, from bronchopneumonia.

BENJAMIN J. SEE, Harris, Ill. (license, years of practice, Illinois, 1878); aged 94; a practitioner for sixty-five years; died at the home of his son in Paris, October 11.

LOU N. BYERS, Aurora, Ill.; Chicago College of Medicine and Surgery, 1911; aged 33; a Fellow of the American Medical Association; died at her home in Aurora, October 3, from pneumonia.

HARVEY F. EICHMAN, Chicago; Chicago College of Medicine and Surgery, 1910; aged 40; a Fellow of the American Medical Association; died at his home, October 14, from pneumonia, following influenza.

JOHN AIMONE, Granville, Ill.; University of Illinois, Chicago, 1907; aged 37; a Fellow of the American Medical Association; died at his home, October 4, from pneumonia, following influenza.

LEO GERNAND MAURY, Chicago; Northwestern University Medical School, Chicago, 1918; aged 23; an intern in Michael Reese Hospital; died in that institution, October 19, from influenza.

LIEUT. MORRIS FINKELBERG, M. C., U. S. Army, Spring Valley, Ill.; Loyola University, Chicago, 1908; aged 31; a Fellow of the American Medical Association; was killed in action in France, September 15.

LOUIS H. GEIGER, Gilman, Ill.; University of Illinois, Chicago, 1903; aged 45; a member of the Illinois State Medical Society; died at St. Luke's Hospital, Chicago, October 9, from diabetes.

ROBERT C. MITCHELL, Belvidere, Ill.; Chicago Homeopathic Medical College, 1901; aged 49; a Fellow of the American Medical Association; died at his home, October 7, from pneumonia.

HARRY WILLIAM PRIEM, Chicago; Rush Medical College, 1914; aged 30; a Fellow of the American Medical Association; died at his home, October 9, from pneumonia, following influenza.

EDWIN EVERETT BOND, Stronghurst, Ill.; Northwestern University Medical School, Chicago, 1909; aged 32; a Fellow of the American Medical Association; died October 5, in the Galesburg Hospital, from pneumonia, following influenza.

LIEUT. PHILIP FRANK SHAFFNER, M. C., U. S. Army, Chicago; Rush Medical College, 1909; age 33; a Fellow of the American Medical Association, and a specialist on dermatology; on duty at Fort Riley, Kan.; died at that post, Oct. 21, after an operation for appendicitis.

WILLIAM H. WELLS, Stronghurst, Ill.; University of Illinois, Chicago, 1897; aged 57; a Fellow of the American Medical Association; died in the Galesburg Hospital, October 5, from pneumonia, following influenza.

RAYMOND LOCKWOOD LEONARD, Chicago; Rush Medical College, 1872; aged 68; a Fellow of the American Medical Association; died in the Post-Graduate Hospital, Chicago, October 19, from carcinoma of the bladder, following an exploratory cystotomy.

JULIUS BACHRACH, Joliet, Ill.; Jenner Medical College, Chicago, 1912; Chicago College of Medicine and Surgery, 1912; aged 40; a Fellow of the American Medical Association; died at his home, October 7, from pneumonia.

GEORGE AUGUST COLIN, Chicago; Illinois Medical College, Chicago, 1903; aged 37; a Fellow of the American Medical Association; also a druggist; died at his home, October 10, from bronchial pneumonia, following influenza.

CAPT. GEORGE SHRADER MATHERS, M. C., U. S. Army, Chicago; Rush Medical College, 1913; a son of Dr. William R. Mathers, Prosper, Texas; a Fellow of the American Medical Association; died in Baltimore, October 5, of pneumonia, aged 31.

ROBERT JARVIS MITCHELL, Girard, Ill.; Rush Medical College, 1871; aged 74; a Fellow of the American Medical Association, and a charter member of the Macoupin County Medical Society, of which he was once president; for ten years president of the Girard board of education; died at his home, September 8.

LIEUT. HENRY JOSEPH ROEWE, M. C., U. S. Army, Chicago; Northwestern University Medical School, Chicago, 1918; aged 26; a Fellow of the American Medical Association; an intern at Michael Reese Hospital; died in that institution, October 25, from influenza.

HAROLD R. DWYER, Chicago; Rush Medical College, 1895; aged 49; at one time a member of the Illinois State Medical Society; an officer of the city health department for sixteen years; high physician of Illinois, United Order of Foresters; died at the Contagious Disease Hospital, Chicago, October 20, from diphtheria.

LIEUT. HARRY PAUL MARTIN, M. C., U. S. Army, Chicago; on duty at Camp Custer, Battle Creek, Mich.; Rush Medical College, 1916; aged 38; a Fellow of the American Medical Association; on duty with the Fourteenth Sanitary Train, Two Hundred and Fifty-Sixth Field Hospital; died at Camp Custer, October 13, from pneumonia.

HERBERT MARION STOWE, Chicago; Rush Medical College, 1896; aged 44; a Fellow of the American Medical Association; assistant professor of obstetrics in Northwestern University Medical School; assistant obstetrician to Provident Hospital; attending obstetrician to the Chicago Lying-In Hospital, and a member of the staffs of Cook County and Mercy hospitals; died October 21, from appendicitis.

LIEUT. ARTHUR LEWIS BEYERLEIN, M. C., U. S. Army, Chicago; University of Illinois, Chicago, 1912; aged 30; a Fellow of the American Medical Association; who was in the government service in the Canal Zone from 1910 to 1916, and was later on duty in the orthopedic department of the Walter Reed General Hospital, Washington, D. C.; died in that institution, October 10, from bronchial pneumonia, following influenza.

ILLINOIS MEDICAL JOURNAL

THE OFFICIAL ORGAN OF

THE ILLINOIS STATE MEDICAL SOCIETY

VOL. XXXIV

CHICAGO, ILL., DECEMBER, 1918

No. 6

Original Articles

GALL-STONE DISEASE COMPLICATING PREGNANCY.

AIMÉ PAUL HEINECK, M. D.,
CHICAGO.

During gestation women are subject to many surgical conditions. The safety of the product of conception, the safety of the mother, demand that our knowledge of these surgical ailments be increased. Definite and accurate conclusions should be formulated as to the most opportune, most appropriate, and, therefore, the most scientific treatment of any and all surgical states complicating pregnancy. In previous contributions, we stated that every case of ectopic pregnancy, irrespective of type or stage of development, calls for the immediate ablation of the ectopic ovum. Immediate operative removal of the ectopic ovum terminates the gestation and protects the mother from the morbidity and fatality incident to extra-uterine pregnancy.

In other contributions, also published in these columns, we urged that every case of appendicitis complicating pregnancy be subjected to operation during gestation. Appendicitis is a surgical disease: when it complicates pregnancy, it calls for the immediate operative removal of the inflamed appendix, irrespective of the type of inflammation, irrespective of the age of the pregnancy. In women, previous to and during the child-bearing period, the non-operative treatment of appendicitis invites disaster, immediate, remote or both. The timely removal of the inflamed appendix protects to a great extent the mother from the complications and sequelæ, from the morbidity and mortality, incident to appendicitis. Operative removal of a diseased appendix does not interrupt gestation, does not exert any unfavorable influence on delivery.

The frequency of cholelithiasis makes this condition one of great practical interest. In the col-

lective statistics of nineteen European and American authors, 80,802 necropsies, the frequency averaged 5.94 per cent. (Hesse.) As the manifestations of gall-stone disease are often unrecognized, misinterpreted, or misdiagnosed, its incidence is greater than is supposed, is far greater than the number of reported cases would lead us to believe. It occurs in both sexes and at all ages, in the fat, in the lean, in the weak and in the strong. The older the patient, the more liable is he or she to have gall-stones. "Gall-bladder disease is preeminently a disease of the middle aged female, but is by no means confined to that age or sex."—Deaver.

Gall-stone disease is of common occurrence during pregnancy, during the puerperium, during lactation. In fact, its greatest incidence is in the child-bearing period. Statistics have established beyond dispute that gall-stone disease, latent or manifest, is more common in women than in men. Out of 655 patients laparotomized for gall-stones, 586 were women, 119 men. (Kehr.) Of 1,244 women operated upon for uterine myomata at the Mayo Clinic, 92 or 7.1 per cent. had gall-stones.

Statistics of 940 cases of cholelithiasis.

(K. Grube.)

Age	10-21	21-30	31-40	41-50	51-60	61-70	71-
Male	2	6	44	55	38	6	5
Female	8	144	213	215	148	52	14
Unmarried							
women	6	24	27	27	19	2	2
Married, with							
children	1	82	177	176	124	44	9
Married, without							
children	1	8	9	12	5	6	3

Unquestionably child-bearing has something to do with the frequency of gall-stones in that state. Cholelithiasis may complicate a pregnancy otherwise normal; it has been found associated with ectopic gestation. (Brothers.) It occurs in primi-

paræ (Heineck), deutoparæ (Barillon), multiparæ, VI-para (Roith), IX-para (Graham). Manifestations of cholelithiasis may precede, coincide with, or follow an abortion or a premature labor. In seven of the analyzed cases there was a history of one or more abortions, accidental or induced; Watson, one; Villard, two; Peterson, six; Brothers, ten. Gall-stone disease may become manifest and necessitate operative relief at any period of gestation: 2nd month, (Bosse); 3rd month, (Roith); 5th month, (Mack); 6th month, (Moulden); 7th month, (Davis). In a large number of cases, the initial symptoms first occur during the child-bearing period. (Rudeaux.) Our cases can be classified according to patient's age at time of operation as follows: The youngest was 21 years old (Villard) the oldest 42 years. (Amann.) From 25-29 years, inclusive, 19 patients, 30-35 years, inclusive, 11 patients, 36-40 years, inclusive, 5 patients. Ploger reports cases in which there was a definite aggravation of symptoms during pregnancy; Naxera reports eight cases in which the first attacks of biliary colic occurred during gestation. "Seventy-five per cent. of gall-stones are found in women and in 80 per cent. of these patients the symptoms developed during pregnancy." (Torrance.) Gall-stones are more commonly found in women who have borne children than in those who have remained sterile. Osler, quoting Naunyn, states that 90 per cent. of women with gall-stones have borne children. "Eighty-four per cent. of 135 women with gall-stones had borne children." (Peterson.)

The literature of the subject contains case reports like the following: In an empyematous gall-bladder, associated with pericholecystitis, perforation from stones occurred during labor. Two days later the patient was operated on and thorough drainage was instituted; sepsis developed. Death occurred on the third post-operative day. (Rose.) Rupture of a calculous gall-bladder can occur previous to, during or after labor. Pinard successfully operated on a case of calculous cholecystitis on the 11th day of the puerperium. Vineberg incised the gall-bladder in two cases of acute cholecystitis, in one case, on the 10th day, in the other on the 12th day after delivery, and removed numerous small stones therefrom. Both cases recovered. In the same report he discusses a case of acute diffuse peritonitis consecutive to a ruptured gall-bladder, supervening a few hours after

normal delivery. The condition was too grave to warrant surgical intervention. Death resulted twenty-four hours later. This patient had had, during her pregnancy, several attacks of biliary colic; her distended gall-bladder had been mapped out. Potocki's patient, a deutopara in the last month of a normal pregnancy, had a sudden attack of right hypochondriac pain, nausea, vomiting, etc. Labor having started, the patient was delivered of a living, normal child. Eleven hours after the termination of labor, a cholecystostomy was performed; the gall-bladder contained pus and numerous calculi. Drainage. Recovery. In the discussion provoked by Graham's case, there was reported a case of death from general peritonitis following rupture of the gall-bladder during labor. The post-mortem revealed the rupture and 250 stones scattered about in the abdomen. Medical attendants should keep in mind that fever during the puerperium can be due to causes other than puerperal fever; appendicitis, gall-bladder disease, etc.

Greater familiarity with the symptomatology, clinical course, and treatment of cholelithiasis complicating pregnancy will lessen the frequency of occurrences such as the preceding, and will also qualify us to combat successfully the various manifestations of gall-stone disease. I have analyzed and studied all the cases of undoubted gall-stone disease complicating pregnancy, reported with sufficient data, thirty cases in all, in the French, English and German medical literature, during the years 1900-1918, inclusive.* Many more cases were studied, but owing to the fact that they are not reported with sufficient detail, they have influenced our conclusions only in a general way. In each case the diagnosis was verified either at the time of operation or at the autopsy.

Etiology. The cause of gall-stone disease is not definitely known. Numerous theories have been advanced; not one has, as yet, been found worthy of general acceptance. The following three factors, owing to their frequency previous to or during the existence of gall-stone disease, impress one forcibly as being important predisposing causes. In the individual case one, two or all of these three favoring influences may be operative.

a. Conditions associated with, favoring or causing biliary stasis.

*All the periodicals to be found at the John Crerar Library, Chicago, Ill.

b. Inflammatory states of the biliary tract, primary or secondary to local disease, or to some general febrile state.

c. Regimens or diatheses favoring or causing hypercholesterinemia.

Cholesterin, the principal component of gall-stones, is derived from the bile. Simple bile-stasis can, through the precipitation of cholesterin, lead to cholesterin-stone formation. Precipitation is prone to occur in inspissated bile, and the elements thrown down may lead to stone formation. In the later months of pregnancy, the abdominal muscles and the diaphragm contract feebly, and the bile, being inefficiently expelled, stagnates in the gall-bladder.

Stasis, in addition to separating out the essential constituents of gall-stones from the bile, favors the growth of bacteria in the residual fluid. According to Sherrington, bacteria cannot enter the bile ducts, as long as the bile is expelled at regular intervals. Bile is not an antiseptic; it does not prevent the development of bacteria; left exposed to bacterial contamination, it undergoes putrefaction. Obstruction to the bile outflow may be due to foreign bodies present in the gall-bladder or in the larger bile ducts; may be determined by inflammatory or other degenerative changes involving the gall-bladder or the bile ducts, or may result from such pathological states of contiguous organs as lead to impingement of one or more of the latter upon the bile ducts. Obesity, sedentary life, constipation, tight clothing, such as ill-fitting and improper corsets, etc., are held by some to be predisposing factors. Miyake believes that the non-wearing of corsets by Japanese women is one of the principal reasons why gall-stones are so infrequent among them.

Bacterial organisms are said to be the most essential cause in the majority of cases of gall-stones. In this connection, one should not ignore the relation of mouth and teeth infections to appendicitis and cholecystitis. In some cases, supplementing the noxious influence of bile stasis, in others, acting independently, in many, acting conjointly, there is present a bacterial inflammation of the mucous membrane of the gall-bladder, of the bile ducts, or of both. If the stone be of aseptic origin, the abnormal element lies in the composition of the bile; if the stone is of inflammatory origin, the pathological condition is the cholecystitis or catarrh of the gall-bladder.

A history of acute cholecystitis first observed

within a few weeks or months of parturition is given by many of the patients operated upon for gall-stone disease. Both pregnancy and the puerperium are not infrequently complicated by acute exacerbations or recurrences of cholecystitis. (Bettmann.) The gastro-intestinal disturbances and constipation that attend the pregnant state no doubt favor the migration of the bacillus coli to the gall-bladder.

Although infection and retarded bile outflow predispose to gall-stone formation, they are not all-sufficient. Occlusion of the cystic or of the common duct may co-exist with an infected gall-bladder, and yet no gall-stones form. In order to produce calculi, infections of the gall-bladder must be of low type: colon bacillus, bacillus typhosus, staphylococcus, etc. Typhoid fever is considered an important etiological factor; it occurs in all lands and among all races, still gall-stones are very uncommon in the tropics; typhoid fever is less prevalent than formerly, but there seems to be no decrease in the number of patients having gallstones.

Aschoff's theory of gall-stone formation can be stated briefly, as follows: cholesterin is a normal constituent of the bile and of the blood, its amount therein depending upon the amount of cholesterin in the food. Diathetic conditions can so alter the composition of the bile as to favor, suitable local conditions existing, the production of calculi. The supposition is that gall-stones are deposited as a result of error in metabolism—(over concentration of cholesterin in blood and bile). A diet rich in fats and albuminous food raises the cholesterin content of the bile. There is a distinct cholesterin diathesis. Persons with this diathesis, even upon an ordinary diet, retain their lipoids; an increased cholesterin content of the blood and of the bile results, and sooner or later a sudden precipitation of the bile cholesterin in the form of gall-stones may occur. Stones are often present in patients with no excess of cholesterin in their blood—the cholesterin shower having occurred at some previous time.

While in the pregnant woman the presence of hypercholesterinemia associated with a clinical history of gall-stones is strongly suggestive of cholelithiasis, a low cholesterin figure does not prove the absence of gall-stones. The cholesterol increase becomes manifest during the later half of gestation. (Slemons & Curtis.)

The sedentary life of the pregnant woman and the encroachment of the enlarging pregnant

uterus upon the liver and its biliary passages favorable stasis. The normal obstetric patient eliminates less, during the entire period of gestation, than the normal non-pregnant woman. There is no well recognized line of demarcation between normal and pathologic pregnancy. During pregnancy the fetal metabolism throws extra work upon the maternal liver; this may determine a temporary impairment of function, an hepatic insufficiency, evidenced by urobilinuria, alimentary glycosuria, moderate icterus, etc. This added stress also predisposes the liver to local changes, evidenced by "the liver of pregnancy," icterus gravidarum, acute yellow atrophy of the liver, etc. The factors enumerated above, taken in connection with the fact that the bile and blood of pregnant women contain more cholesterol than the bile and blood of men or non-pregnant women, explain in part the greater frequency of gall-stones in child-bearing women, explain in part the undeniable etiological influence of pregnancy in gall-stone formation.

Pathology. One, two, three or more biliary calculi may be present in the same patient. From a pregnant patient, Moulden removed 17 biliary calculi, Bosse 26, Graham 80 odd, Roith 84, Finkelstone 86, Brothers 250. In reporting his case Davis says the calculi were "too numerous to count."

Gall-stones vary in volume, in shape, in location. Bishop says that in his case the calculi were "like fig-seeds"; Mack, that they were "pea-shaped"; Barillon, "mulberry-shaped"; Peterson, "facetted." In Rissmann's case the calculus was large, long and elliptical; in Roith's, pigeon egg sized. In many of the cases where numerous, the calculi were pea-sized.

Gall-stones usually develop in the gall-bladder, rarely in any other portion of the biliary tract. In their wandering they may lodge in the hepatic duct, in the cystic duct—"Seventeen stones were scooped out of the dilated cystic duct"—(Moulden); (later Moulden operated on his patient again, opened the duodenum and removed five small stones from the ampulla of Vater); in the common duct (Ploger), in the duodenal end of the common duct, including the ampulla of Vater (Rissmann). "Autopsy showed stones in hepatic duct and in common duct." (Peterson.) From a V1-para, 2 months pregnant, Bosse removed one gall-stone from the common duct and twenty-five from the gall-bladder.

Stones may precede the presence of inflammatory changes in the gall-bladder, may be associated with and be the cause or effect of inflammation, slight, moderate or severe. The inflammation may be limited to the gall-bladder (cholecystitis), to the larger ducts (cholangitis), it may spread to the finer radicles of the biliary tract (diffuse cholangitis), or may be diffuse, involving the gall-bladder and the biliary passages. Cholelithiasis may result from a cholecystitis and, once established, it becomes a factor in the maintenance of the cholecystitis, in the causation of recurrent attacks of cholecystitis. Inflammation of the gall-bladder and bile ducts is acute or chronic, ulcerative, perforative, or adhesive, catarrhal, phlegmonous, suppurative, or gangrenous. It may be limited to the mucous membrane, or involve part (Davis), or the entire thickness of the gall-bladder wall. In the latter case adhesions are very liable to form between the gall-bladder and one or more contiguous organs. The exudate accompanying these inflammations is mucus, serous, sero-fibrinous, or purulent (Graham) in nature. "Gall-bladder in addition to calculi, contained 200 cu. cm. of pus." (Moulden.) If perforation or rupture of a gall-bladder occur, the stones therein present may escape, either into the peritoneal cavity, or into a mass of adhesions, or into the liver substance.

Graham, operating on a IV-para, six months pregnant, for a ruptured gall-bladder, removed 3 stones from the peritoneal cavity, one from the gall-bladder, and two from the cystic duct. Should the inflamed gall-bladder become adherent to a neighboring viscus, the resulting adhesions may cause functional impairment, or an internal fistula may result, through which the gall-stones may escape; if the gall-bladder become adherent to the abdominal wall, the inflammation may involve the latter and lead to the formation of an inflammatory mass, from which, ultimately, an external biliary fistula may result.

Amann's patient, a multipara, in the fifth month of pregnancy, noticed a painful mass, supposedly a fibroma, developing in the hepatic region. She went through a normal labor and three months later this painful tumor mass was successfully removed. It had resulted from a pericholecystic inflammatory process extending to and involving the contiguous abdominal wall and the appendix vermiformis, and it consisted of a

ruptured gall-bladder and an extended gall-stone, an appendix and an inflammatory tissue mass.

Impaction of a stone in the cystic duct may lead to:

1. Dilatation of the gall-bladder and a resulting: A. Simple hydrops (the wall of the gall-bladder may be greatly thickened; may be paper-thin; may be almost transparent). B. Empyema.

2. Acute or chronic cholecystitis; catarrhal, serous, sero-fibrinous, suppurative, gangrenous, phlegmonous, ulcerative, perforative, adhesive.

3. Sclerosis of the gall-bladder; atrophic, hypertrophic.

4. Calcification of the gall-bladder.

If the calculus becomes impacted in the common duct there may result any of the fore-mentioned complications or a distention of the common duct (Bosse), with or without a cholangitis.

Inflammation in the common duct involving contiguous tissues may produce a thrombophlebitis and thus interfere with the circulation through the liver, may extend to the head of the pancreas, changing it to a firm tumor (Finkelstone). In his case Max Neu found the gall-bladder shrunken, the common duct widened and bound down by broad inflammatory adhesions to the duodenum.

Symptoms. Moynihan, Mayo, and many other careful clinical observers are of the opinion that gall-stones do not exist without producing symptoms; they state that the vague term "indigestion" is used variously by patients to indicate all the several forms of distress which are the forerunners of a crisis of acute biliary colic. Parks claims that the statement "may not cause symptoms" in an admission of inability to recognize incipient symptoms.

Gall-stones produce symptoms by irritation, by migration, by obstruction. Pain and tenderness are most constant and most important symptoms of cholelithiasis, being described by the patients under a variety of terms: a, discomfort (Roith); b, deep soreness (Villard); c, biliousness; d, dyspepsia; e, gastric distress (Barillon); f, neuralgia. The pain, usually limited to the region of the gall-bladder, radiates quite often to the epigastrium, subscapular region, neck, shoulders, arms, etc. "Pain in hepatic region" (Bosse). "Pain in right hypochondrium, extending to right shoulder" (Davis). "Repeated attacks of pain under the right scapula, extending around to the epigastrium" (Bishop). "Lancinating pain

in epigastrium radiating to back under the shoulder blade" (Moulden). "Sudden attack of pain in region of navel" (Roith). "Pain in right hypochondrium, radiating to shoulder and to back" (Villard).

What causes this pain? Various factors, chief among which are: a. The calculi themselves; b. The inflammation present in the gall-bladder and in the biliary tracts; c. Adhesions of inflammatory origin binding the gall-bladder, cystic or common duct to adjacent organs. These adhesions can also determine severe functional disturbances of stomach and intestines.

"The most characteristic and constant sign of gall-bladder hypersensitiveness is the inability of the patient to take a full inspiration when the physician's fingers are hooked up deep beneath the right costal arch below the hepatic margin. The diaphragm forces the liver down until the sensitive gall-bladder reaches the examining fingers, when the inspiration suddenly ceases as though it had been shut off. I have never found this sign absent in a case of calculus or in infectious cases of gall-bladder disease."—Murphy.

The localized tenderness and the rigidity of the abdominal wall may be so marked that satisfactory palpation is difficult, impossible. Other factors, thick abdominal wall, meteorism, deep-seated location of the gall-bladder, may prevent the detection of the latter. In a few cases, however, a gall-bladder distended by calculi (Peterson, Roith), or by fluid, mucus, purulent, etc., in nature, or by both calculi and fluid (Villard), can easily be mapped out. A gall-bladder contracted by inflammation does not give rise to a palpable tumor.

Jaundice. In the diagnosis of gall-stone disease, too much significance has been attached to the symptom jaundice. It is an important sign, but is not to be considered essential to diagnosis; like hemorrhage in duodenal ulcer, it ought not to be waited for. Jaundice may not occur at all (Heineck, Finkelstone), it may be inconspicuous, it may be late, it may be inconstant. In some cases each attack of gall-stone colic is followed by transient jaundice. (Bishop.) The presence of jaundice was definitely recorded in twenty of our thirty cases. The jaundice was accompanied by its usual concomitant manifestations, digestive disturbances (Villard), beer-brown urine (Bosse, Davis, etc.), clay-colored stools (Ploger, Rissmann, etc.).

In diseases of the biliary passages, icterus is of two forms; it is of inflammatory or of lithogenous origin. The cause of the first is an inflammatory swelling of the mucous membrane of the biliary passages (Korte, Barillon). In gall-bladder infections the swelling of the mucous membrane may extend and involve the common and hepatic ducts and thereby obstruct the bile flow. The mechanical occlusions, partial or complete, of the common duct by a calculus, causes lithogenous jaundice. Icterus is frequently due to both inflammatory and calculous obstruction.

As long as a calculus remains in the gall-bladder, or in the cystic duct, jaundice is not likely to appear. In eleven of the cases in which jaundice was observed there was present, with or without other calculi, a common duct stone. (Bosse, 3 cases; Heineck, Mack, 2; Bloger, Rissmann, Mc-Nee, Roith, 2 cases.) In a lesser number of cases, the provocative cause was the compression of the common duct of the extra-hepatic part of the hepatic duct by a large stone in the cystic duct, by swollen lymph-glands, by inflammatory exudates, by adhesions compressing or kinking the ducts, etc.

Colic. As stated before, gall-stones cause pain through the irritation, infection, and inflammation that result from their impaction in the neck of the gall-bladder or in any part of the bile-ducts. They also cause a characteristic lancinating pain, agonizing in nature, by meandering through the bile ducts for a shorter or longer distance and setting up a spasm of the muscular wall behind the stone. This latter pain is intense, is designated as biliary colic, and is usually accompanied by chills, frequent vomiting, white lard-like stools, and bile-stained urine.

Gall-stone colic can be caused by: 1. An adherent, inflamed gall-bladder containing calculi (Finkelstone), or having contained calculi; 2. An inflamed gall-bladder distended by fluid or stones, its cystic duct being occluded by inflammation or by a calculus (Barillon), or calculi; 3. The entrance into, or attempted passage through some part of the ducts of a calculus, altered bile, mucus or other irritating foreign body; 4. The transit of a stone through the bile passages; 5. Impaction of a stone in a dilated inflamed common duct or in any of its tributaries (Bosse, two cases, Ploger, Rissman). All the cases with stone in the common duct gave a history of biliary colic.

Diagnosis. If the symptoms are typical, the

diagnosis of gall-stone disease is easy. In addition to recognizing the condition of cholelithiasis, the surgeon should, if possible, determine the exact location of the calculi and note what pathological conditions or changes may be present. Digestive disturbances are undoubtedly the cause of most failures to recognize early gall-bladder symptoms. Cholecystitis and cholelithiasis are often mistaken for diseases of the stomach.

By keeping in mind that much of the dyspepsia of pregnancy is from unrecognized gall-stone disease, and that gastric disturbances in pregnancy should receive careful consideration and not be regarded simply as concomitant features of the pregnant state, many diagnostic errors will be avoided. The discovery of calculi in the feces is evidence of their previous existence. It is not proof that any remain. X-ray pictures taken and interpreted by expert roentgenologists are of paramount importance in the diagnosis of biliary, renal or ureteral calculi. The absence of any roentgenographic shadow does not prove the absence of gall-stones. "X-ray revealed outline of gall-bladder filled with stones."—Peterson.

Things of importance to arrive at a diagnosis are: 1. An exact history, including the record of previous attacks of hepatic colic; "Previous attacks of biliary colic"—Rissmann, Ploger. "Gave a history of having had similar attacks during her previous pregnancies."—Davis. "Previous attacks biliary colic. Three years ago first attack of pain in hepatic region. Since then, recurrent attacks."—Bosse. 2. The location of the tenderness and pain and the nature and radiating character of the latter. 3. A thorough examination including a careful inspection and palpation of the abdomen, especially of the hypochondriac region. 4. The exclusion of such pathological conditions as simulate gall-stone disease; lead colic, renal colic, duodenal ulcer, nephrolithiasis, chronic appendicitis, movable kidney, infection of the genital tract. Cholecystitis is frequently diagnosed appendicitis and vice versa. Gall-stone disease and appendicitis are frequently present in the same patient. Cholelithiasis may co-exist with other pathological states.

Treatment. In cholelithiasis two urgent indications are present: 1. The removal of the calculus or calculi present in the gall-bladder or ducts; 2. The cure of the inflamed condition of the bile tracts. It is agreed that gall-stones should be removed. No one nowadays treats a vesical cal-

eulus by other procedures than operation. The spontaneous passage of a calculus through the intestine may bring about a cure, but other calculi usually remain in the gall-bladder and any one of them may set up an inflammatory attack. In gall-stone disease, medical treatment is purely prophylactic, merely palliative. It is not curative. Moynihan says, "I hold that once a diagnosis has been made, operation is always indicated unless there are grave reasons forbidding resort to surgery. Reasons should not be asked to support a plea for operation, but to justify any other course than this."

The earlier the patients are operated on, the more prompt the relief; the more numerous, the complete recoveries. With advancing pregnancy, the technical difficulties incident to operations on the gall-bladder and bile ducts increase. In these cases we never use chloroform as a general anesthetic; we are afraid of its action on the liver cells. We have been well pleased with the use of a hard round cushion placed transversely beneath the dorso-lumbar region. One of three operations, choledochotomy, cholecystostomy, or cholecystectomy is usually performed, the type of operation selected, depending, in the individual case, upon the location of the calculi and upon the nature of the associated complications. In the extraction of calculi from the bile ducts, injury of the duct and wall should be avoided. Rather than risk this, the incision in the duct should be prolonged.

If the calculus or calculi are in the hepatic or common bile duct, their removal is effected by incising the common duct; drainage is instituted through this incision. (Hepatic drainage.) Recovery followed in the three cases (Bosse, two, Ploger, one), in which this was done. Rissmann successfully removed a calculus from the duodenal end of the common duct by incising the anterior and posterior duodenal wall. In the cases in which stones were present in the gall-bladder and in the common duct, the performance of a cholecystostomy and a choledochotomy at one sitting, plus the institution of hepatic drainage, gave satisfactory results. Bosse, Maek, Neu, etc. Roith, in a case in which stones were present in the common duct, removed the gall-bladder, then incised the common duct and drained through the latter. Recovery. Davis in a patient seven months pregnant performed a cholecystectomy. Forty-five days later the uterus was dilated manually and a premature fetus was extracted. In all of the other

cases, a cholecystostomy was performed. Finkelstone in his case did a cholecystostomy; one year later, he performed a cholecystectomy. In some cases, owing to the coexistence of other pathological states, additional operative work was done. There were two deaths (Graham, Peterson) in the series of cases under consideration. In Graham's case the patient, at time of operation, had a general peritonitis from her ruptured gall-bladder. In Peterson's case, in which there was considerable blood oozing (the coagulation time of the blood was seven minutes), there developed an acute post-operative suppression of urine. In cases of gall-stone disease in which other pathological states were present, appropriate additional operations were performed. Erdmann, in his case, did a cholecystostomy and an appendectomy. Brothers, in one case, removed 205 gall-stones, excised one inch of the left tube to induce sterility, and did a right salpingo-oophorectomy for an existing right tubal gestation.

There is a wide difference of opinion as to which operation, cholecystostomy or cholecystectomy is indicated in gall-stone disease. Some operators almost invariably perform a cholecystostomy; others equally competent believe that cholecystectomy is the most universally applicable operation for the cure of cholelithiasis. Others do as Kummel, who says, "We remove the gall-bladder when we must, we save it when we can." It is well to select the operation which can be performed in the shortest possible time consistent with the existing conditions of the biliary passages. After cholecystectomy redrainage of the biliary passages may prove extremely difficult and dangerous. The advocates of cholecystectomy claim that the removal of the organ takes away the possibility of stones being left behind, being reformed, that it removes an inflamed organ.

It is agreed that cholecystectomy is attended with more technical difficulties than cholecystostomy. It requires greater care to avoid injury to the bowels, vessels and the main bile ducts. It is wiser to choose the safer operation until the technique of the more complicated one has been mastered.

Cholecystostomy is the operation of election:

1. Whenever the patient's condition is so bad that the difficulties attending a cholecystectomy render its performance unsafe;
2. When the gall-bladder is not seriously damaged and when the cystic duct is not ulcer-

ated or narrowed by stricture. It is believed that the gall-bladder has some other function than that of a mere receptacle of bile.

3. When the common duct is strictured.

4. If jaundice and pancreatitis complicate the gall-stone diseases.

Cholecystectomy is indicated:—

1. For very thick, acutely inflamed or gangrenous gall-bladders in which a stone is impacted in the cystic duct.

2. For chronically thickened gall-bladders. A thick wall gall-bladder which has become functionless should always be removed. When the gall-bladder becomes thickened and hardened from long continued inflammation, it is manifestly impossible that it should dilate, no matter what obstruction there may be in the common duct.

3. For large gall-bladders distended with clear fluid and resulting from the impaction of a stone in the cystic duct.

4. For the "strawberry" gall-bladder (chronic thickening with ulceration.)

5. For a calculous gall-bladder adherent to the stomach, intestine, or omentum.

6. When the walls of the gall-bladder are so modified by disease that neither the storage nor the expulsion of the bile is possible.

SUMMARY

1. Gall-stone disease occurs with far greater frequency in women than in men; with far greater frequency in women that have borne children than in women that have remained sterile. Its period of greatest incidence is the child-bearing period.

2. Gall-stone disease, alone or associated with one or more other related or non-related pathological states, not uncommonly complicates a pregnancy otherwise normal or abnormal.

3. The first manifestations of cholelithiasis may date from the existing gestation or from a previous pregnancy; may precede, coincide with or follow an abortion or premature labor, accidental or induced.

4. All conditions that are associated with, that favor or cause: *a.* bile stasis; *2.* inflammatory or degenerative changes involving the gall-bladder or bile tracts; *c.* pathological alterations in the composition of the bile, such as hypercholesterinomia, etc., predispose to gall-stone disease.

5. Pregnancy is an important etiological factor in the causation of cholelithiasis.

6. The pathology of gall-stone disease complicating pregnancy is the pathology of gall-stone disease occurring in the non-pregnant. There may be present: *a.* an inflammation of the gall-bladder or bile ducts in which one, two, or many calculi are lodged, or impacted; *b.* a distention of the gall-bladder or bile ducts by mucus, pus, or calculi; *c.* a pericholecystic inflammation, calculous in origin, leading to adhesion formation, to fistula formation, etc., and corresponding disturbances of function; *d.* changes in the liver; *e.* changes in the pancreas.

7. Some of the symptoms of gall-stone disease are due to the irritation inherent to the presence of gall-stones, to their migration through, or impaction in the bile ducts or neck of the gall-bladder. Other symptoms are due to the concomitant inflammation of the gall-bladder, bile ducts and neighboring organs, causative of or resulting from the presence of calculi.

8. Rupture of a gall-bladder distended by calculi or fluid, mucous or purulent in nature, can occur during gestation or during or immediately after labor.

9. In the differential diagnosis of this condition one should bear in mind:

a. that not infrequently gall-stone disease originates during or may complicate pregnancy;

b. that cholelithiasis and cholecystitis owing to their reflex symptoms are often mistaken for gastric disease;

c. that appendicitis and gall-stone disease frequently co-exist;

d. that digestive disturbances associated with acute pain and tenderness in the right hypochondriac region, with or without jaundice, with or without symptoms of biliary colic are in themselves ample justification for operative exploration of the gall-bladder and ducts.

10. Cholelithiasis is a surgical disease; it calls for operative relief. Medical measures in this disease are merely palliative; appropriate surgical measures are curative.

11. Gall-stone disease in itself is never an indication for the artificial termination of pregnancy.

12. Whenever, for some cause or other, the abdomen is opened in women of the child-bearing age or past the child-bearing period, the gall-

bladder and larger bile ducts should be examined if it can be done:—*a.* without or with only slight traumatizing of the tissues; *b.* without exposing the patient to too much additional risk. *c.* without contaminating clean peritoneum. Should the patient give a history of chronic digestive disturbances, the indication is absolute.

13. Women exposed to pregnancy, suffering from calculous cholecystitis, or any other form of gall-stone disease, should be operated on, the calculi removed, and the gall-bladder drained.

14. Pregnancy does not contra-indicate operations upon the gall-bladder or bile tracts. Peterson reported only three miscarriages in twenty-three cases operated on. In only one (Roith) of the cases which we considered, did abortion follow the operation.

15. It has been repeatedly demonstrated that the operative relief and cure of cholelithiasis does not unfavorably influence gestation, does not unfavorably influence parturition. Icterus, whether acute or chronic, is a constant menace to the fetus.

16. Early operation is now, in proper hands, a safe procedure. It is an effectual cure of the symptoms produced by gall-stones; it has a low mortality and guarantees against serious complications in the future.

17. Cholecystostomy, cholecystectomy and choledochotomy have been successfully performed upon pregnant women for the relief of gall-stones. After these operations, drainage is to be employed until the bile ceases to flow spontaneously through the wound, until complete subsidence of whatever degree of cholangitis existed.

18. The prognosis of operative intervention is not unfavorably influenced by the existence of pregnancy.

19. In persistent gall-bladder disease, trouble changes in the urine manifested by the presence of casts and albumin are not uncommon and are not necessarily a bar to operative interference.

BIBLIOGRAPHY.

1. Amann: *Monat. f. Geburt. u. Gyn.* 41-1, 1914.
2. Audebert, J., and Gilles, R.: *Rapports de la lithiase biliaire avec la grossesse et l'accouchement.* *Ann. de Gynec. et d'obst.* S2, 7:758-811, 1910.
3. Audebert, J.: *Cholecystite gravidique.* *J. de med. de Par.* S2, 26:492-494, 1914.
4. Bettmann, H. W.: *Cholecystitis; with suggestions for the prevention of gallstones.* *Med. Rec. N. Y.*, 74:923-925, 1908.
5. Bevan, A. D.: *Gall Stone Disease.* *Surg. Clin., Chicago*, 1:1-20, 1917, Feb.
6. Bishop, E. Stanmore: *On biliary calculi.* *Lancet* I:817, 1906.
7. Bosse, B., and Fabricius, E.: *Ein Fall von metastatischer Appendicitis und Cholezystitis in Spätwochenbett, nebst Bemerkungen über septische Infektionen von der Mundhöhle aus.* *Wein. klin. Rundschau*, 24:591-608, 1910.
8. Branham, J. H.: *Gall bladder surgery.* *Am. J. Obst.*, 76:940-943, 1917, Dec.
9. Branson, Laura: *Cholecystitis and Cholelithiasis in their relation to pregnancy.* *J. A. M. A.*, 57:1690-1694, 1911.
10. Brothers, A.: *Report of a case from which 205 gallstones were removed simultaneously with operation on cervix uteri and uterine adnexa.* *Am. J. Surg.*, 23:142, 1909.
11. Bumpus, Hermon C.: *Rupture of the common bile-duct associated with subphrenic abscess.* *Ann. Surg.* 64:414-418, 1916, Oct.
12. Bunts, F. E.: *Difficulties in the diagnosis of gallstones.* *Am. M. J.* 41:760-767, 1913.
13. Burke, R. A.: *Association of Cholelithiasis and pregnancy.* *J. Mich. M. Soc.* 13:599, 1914.
14. Davis, A. B.: *Cholecystectomy in the seventh month of gestation, without interrupting pregnancy.* *Bull. Lying-in Hosp. N. Y.* 2:2-4, 1905.
15. Deaver, J. B.: *A report of the cases of gallstone disease operated on during the year 1914.* *Am. Surg., Phila.*, 1915, 62, p. 197.
16. DeLec, Joseph B.: *Diagnosis and management of pregnancy in the presence of acute abdominal conditions.* *S. G. O.* 23:660-663, 1916, Dec.
17. Erdmann, J. W.: *Biliary surgery from January, 1910, to April 10, 1914, with an analysis of 270 cases.* *Ann. Surg., Phila.* 60:665-672, 1914.
18. Finkelstone, B. B.: *Report of a case of Cholelithiasis complicating pregnancy.* *Am. J. Obst.* 74:818, 1916, Nov.
19. Goldammer: *Beiträge zur Chirurgie der Gallenwege.* *Illus. tables. Beitr. z. klin. Chir.* 55:41-72, 1907.
20. Graham, Joseph: *Gallstones complicating pregnancy and the puerperium. Report of six cases.* *South. M. J.* 7:389-392, 1914.
21. Green, R. M.: *Cholecystitis and Cholelithiasis associated with pregnancy.* *Boston M. & S. J.*, 168:679-681, 1913.
22. Grube, K.: *Ueber die Bedeutung der Schwangerschaft für die Entstehung der Gallensteinkrankheit, Veröffentl. d. balt. Gesellsch.* 33 (Pt. 2) 13-16, 1912.
23. Hartman, Otto.: *Bakteriologische Studien an der Hand von 46 Gallensteinoperationen nebst einem Beitrage über aetiological Fragen des lithogenen Katarrhs der Gallenblase.* *Deutsch. Ztschr. f. Chir.* 68:207-238, 1903.
24. Hesse, H. & M.: *Ueber die Häufigkeit der Gallensteine auf Grund eines Sektionsmaterials von 17, 402 Fallen.* *Beiträge zur klin. Chir.*, vol. 89, 1914, p. 611.
25. Hirst, B. C.: *The diagnosis, treatment and management of surgical conditions complicating the process of generation.* *Am. J. Obst.* 76:971-976, 1917.
26. Hofbauer, J.: *"Über" Relationen weiblicher Generationen Vorgänge zur Klinik der Cholelithiasis.* *Med. klin., Berlin* 5:239-241, 1909.
27. Huggins, R. R.: *The toxemia of pregnancy as observed by the gynecologist.* *Am. J. Obst.* 56:588-606, 1907.
28. Kehr, Hans: *Ein Rückblick auf 720 Gallensteinlaparotomien, unter besonderer Berücksichtigung von 90 Hepatikusdrainagen.* *München med. Wchnschr.* 49 pt. 2:1639, 1749, 1800, 1912.
29. Kunika, S.: *Die Entstehung der Gallensteine in ihrer klinischen Beziehung.* *Beitr. z. klin. Chir.* 79:579-614, 1912.
30. Lanford, J. A.: *The etiology and pathology of gallstones.* *N. Orl. M. & S. J.* 68:177-182, 1914-1915.
31. Mack, Wilhelm: *Die Cholecystotomien der Heidelberger chirurgischen Klinik 1901-1906.* *Beitr. z. klin. Chir.* 57:535-580, 1908.
32. Mayo, Charles H.: *Gallbladder diseases; etiology, symptoms and treatment.* *N. Y. Med. Journal*, vol. 103, pp. 433-6, 1916.
33. Mc'Nee, J. W.: *Recent work on the etiology of gallstones.* *Glasgow M. J.* 81:106-115, 1914.
34. Moulden, W. R.: *Emphyema of gallbladder complicating pregnancy.* *Am. J. Obst.* 75:873-875, 1917.
35. Moynihan, B. G. A.: *Gallstones and their surgical treatment.* *Phila.* 1905, p. 53.
36. Naxera, L.: *Die Pathogenese der Gallensteine vom klinischen Standpunkte.* *Wien. klin. Rundschau*, 18:681-703, 1904.
37. New, Max.: *Die prognostische Bedeutung operativer und anderer Traumen für die Fortdauer der Schwangerschaft.* *Arch. f. Gynaek., Berlin*, 80:408-421, 1906.
38. Opitz, E.: *Ueber Leberveränderungen in der Schwangerschaft.* *Ztschr. f. Geburtsh. u. Gynak.* 73:351-361, 1913.
39. Osler: *Princ. Pract. of Med.* 7 ed. 1910, p. 549-562.
40. Parks, A. L.: *Gallstones with report of a case.* *Penn. M. J., Athens*, 18:922-924, 1914-15.
41. Peterson, R.: *"The Practice of Obstetrics in Original Contribution by American Authors."* *Phila. and New York, Illus.* Page 365.
42. Peterson, Reuben: *Gallstones during the course of 1,066 abdominal sections for pelvic diseases.* *Surg. Gynec. & Obst.* 20:284-291, 1915.
43. Peterson, R.: *Gallstones during pregnancy and the Puerperium.* *Surg. Gynec. & Obst.* 10, 1, 1910.
44. Peterson, R.: *Gallstones during pregnancy and the puerperium.* *Surg. Gynec. & Obst.* 11:1-11, 1910.
45. Pinard, M. A.: *Cholecystite pendant les suites de couches. Cholecystotomie pratiquée le onzième jour après l'accouchement.* *Guerison. Compt. rend. Soc. D'obst. de gynec. et de pédiat. de Paris* 4:212-220, 1902, *Ann. de gynec. et d'obst.* 59:270-273, 1903.

46. Ploger, R.: Die Gallensteinkrankheit in ihrer Beziehung zur Schwangersch und zum Wochenbett. Beitr. z. klin. Chir. 69:275-295, 1910.
47. Potocki M.: Cholecystotomie pratiquée quelques heures après l'accouchement. Compt. rend. Soc. d'obst. de Gynec. et de pédiat. de Paris, 4:155-165, 1902; June, Ann. de gynec. et d'obst. 59:270-278, 1903.
48. Rissmann: Langdauernder Steinverschluss des chole-dochus und des diriveticulum Vateri, Transduodenale Operation in der Gravidität. Zentralbl. f. Gynäk., Leipz. 33:689-691, 1909.
49. Robson, A. W.: Mayo, Diseases of the gallbladder and bile ducts, including gallstones. Third ed. New York, p. 221.
50. Roth, O.: Indikationen und Prognose der Gallensteinoperationen in der Schwangerschaft. Monatschr. f. Geburtsh. u. Gynäk., Berlin, 29:499-507, 1909.
51. Roth, H.: Pathology and diagnosis of gallstones and diseases of the biliary system. Med. Rec. 77:689-698, 1910.
52. Rose: Gallstone complicating puerperium. Zentralbl. fur Gynak. 27 (1):703-704, 1903.
53. Rudeaux, P.: De la colique hépatique pendant la puerperalie. Arch. gen. de Med., Paris, 1:86-91, 1905.
54. Sitzenfrey, Anton: Über die Beziehungen der Cholelithiasis zum weiblichen Geschlechtsleben und zu gynäkologischen Leiden. Nebst Mitteilun eines durch Zystektomie geheilten Falles von Gallenblasenempyem im Wochenbett. Prag. Med. Wochensh. 32:365, 378, 393, 1907.
55. Slemons, J. M., & Curtis, C. S.: Cholesterol in the blood of mother and fetus. A preliminary note. Am. J. Obst., N. Y., 75:569-575, 1917.
56. Tilton, B. T.: Gallstone disease. The present indications for operative interference. N. York M. J. 103:436-440, 1916, March.
57. Torrence, Gaston: Cholecystectomy with a report of sixty-five cases operated on for gallbladder disease. Am. J. Surg. 31:323-324, 1917, Dec.
58. Villard, E.: Un cas de Cholecystite suppurée au cours de la grossesse. Lyon med. 100:34-39, 1903.
59. Vineberg, H. N.: Acute Cholecystitis in the puerperium. Med. Rec., N. Y., 67:532-534, 1905.
60. Watson, J.: Three cases of gallstones associated with pregnancy. Guy's Hosp. Gaz. 28:225, 1914.

INDUCED PNEUMOTHORAX.
ITS USE IN TREATMENT OF PULMO-
NARY TUBERCULOSIS. WITH A
REPORT OF 202 CASES.

EVERETT MORRIS, M. D.
Captain, Medical Corps, U. S. Army General Hospital 16,
NEW HAVEN, CONN.

TURBAN'S CLASSIFICATION FOR TABULATION OF
INDIVIDUAL CASES:

- 1. Slight lesion extending at most to the volume of one lobe or two half lobes.
- 2. Slight lesion extending further than 1, but at most to the volume of two lobes; or severe lesion extending at most to the volume of one lobe.
- 3. All lesions which in extent of the part affected exceed 2.

There is no therapeutic measure used in the domain of phthisis offering to suitable cases as much justification for anticipating a successful issue as artificial pneumothorax. Before going further, we must define clearly the word "suitable" and take for granted that the treatment be left in experienced or careful hands. The rationale of induced pneumothorax is based on

*Read Before the Chicago Medical Society, April 10, 1918.

the fundamental principle, rest, and the ultimate result sought by every kind of treatment, viz., fibrosis. This paper will be confined largely to my observations of 202 cases treated by myself and other members of the staff at the Cook County Tuberculosis Hospital since November, 1914, this special method being considered at all times only as an adjunct to the accepted hygienic-dietetic regimen of the institution.

The questions first to consider are: What constitutes a suitable case? How long shall we depend only on hygienic-dietetic management? The ideal case physically, is a recent progressive, ulcerative, unilateral lesion in one lobe or more (Turban II or III),¹ without marked adhesion formation; the opposite lung clinically free from pathology. Unfortunately, this condition is seldom found, although I do not doubt that many cases at some time could have been so classified. Roentgenologists tell us that these "clinically unilateral" cases usually reveal under the Roentgen ray a definite peri-bronchial tuberculosis, in most cases inactive. With the exception of three moderately advanced cases, all are far advanced in Table 1.

Here I desire to call attention to the rarity of one-sided cases. Early in our experience with artificial pneumothorax, I studied the histories of ninety-six cases in the male receiving wards and found seventeen in which the disease was confined chiefly to one side. Of these only two were selected after careful clinical examinations, the others being rejected either on account of slight activity in the opposite lung or the patient's attitude toward the procedure. Today, I am accustomed to urge every one presenting such finding to take advantage of this special method of treatment.

The next class, and probably the one most often chosen for this treatment, reveals extensive infiltration, consolidation or cavity formation

TABLE 1.
UNILATERAL CASES.

		(Sputa)		(Indications)			(Discontinued or discharged)				(Resident)					
Turban		No. of cases	Positive	Negative	Cavitation	Hemoptysis	Effusion	Average No. of treatments	No. free space	Activity opposite lung	Left institution improved	Unimproved	Died	Improved	Unimproved	Working
R I	2	2	2	0	0	0	0	2	0	0	1	1	0	0	0	0
L II	2	3	3	1	0	0	0	10	0	0	1	1	1	0	0	0
R II	3	3	3	0	0	0	0	5	0	0	1	1	1	0	0	0
L III	5	5	5	0	0	0	0	5	1	1	1	2	2	1	0	1
R III	14	13	1	12	0	0	2	11	3	4	3	1	5	3	0	1
Total		28	26	2	22	4	2	12	4	7	7	5	8	5	8	4

throughout one lobe or more (Turban 2 or 3), with evidence of active infiltration in the opposite apex (Turban 1) or its equivalent. My practice has been, until recently, not to recommend the treatment to those whose disease has progressed further than the apex in the good lung. In seventeen instances, air was given with the disease active in more than one-half of the upper lobe (Turban 2) of the good lung. In these the border line between utility and danger has to be sharply drawn. In the following table all were far advanced and a great percentage hopelessly ill, except two moderately advanced cases.

TABLE 2. BILATERAL CASES.															
Turban	No. of cases	Sputa		Indications			Discontinued or discharged					Resident			
		Positive	Negative	Cavitation	Hemoptysis	Effusion	Average No. of treatments	No free space	Activity opposite lung	Left institution improved	Unimproved	Died	Improved	Unimproved	Refused treatment
R I															
L I	2	2	..	..	2	..	4	..	..	..	..	2	..	..	..
R I															
L II	15	15	..	15	..	..	8	2	2	7	5	1	1	..	1
R I															2
L III	74	70	4	64	4	5	10	10	23	8	22	35	6	1	4
R II															1
L I	22	18	4	18	3	1	10	6	5	6	5	5	2	1	1
R II															..
L II	3	2	..	3	..	..	1	1	..	1	1	1	..	..	..
R II															..
L III	7	7	..	5	1	1	4	4	..	1	..	4	1	..	..
R III															..
L I	44	40	4	40	4	..	8	5	21	6	13	16	4	2	4
R III															1
L II	7	7	..	6	..	1	9	2	2	2	2	2	1	1	..
Total	174	162	12	151	14	8	6	30	53	31	48	66	16	5	11

Certain cases of acute pleurisy are relieved by the introduction of small amounts of nitrogen gas or atmospheric air into the pleural sac. Most gratifying results may be expected from compression in recurrent hemoptyses otherwise uncontrollable and seemingly hopeless. Fibroid phthisis, miliary tuberculosis, tuberculous enteritis and cases with serious heart and kidney lesions should not be selected.

No arbitrary rule can be laid down as to when the treatment should be instituted. After studying our cases, individually and collectively, I am convinced that the average length of residence in the institution, seventy days, before this special treatment was begun, is too long. It is common knowledge in tuberculosis institutions that new patients, as a rule, do remarkably well for the first few weeks. It may be we doctors are somewhat influenced by this trick in the disease and procrastinate. I admit there are a number of border line cases which are puzzling. In suitable instances, after two to four weeks of sanitarium

regimen without marked improvement, I decide in favor of this treatment. In addition to choosing the case from a physical standpoint, there is yet another equally important factor, viz., a desire on the part of the patient for, and a determination to continue, the treatments as long as conditions require them. The following case report will illustrate what determination on the part of the patient will sometimes do:

Bohemian; female; married; age 26; admitted October 19, 1914.

Diagnosis—Infiltration of right upper with effusion; infiltration of left upper (Turban R3—L1); weight, 93 lbs.; prognosis, unfavorable.

On November 25, 1914, it was decided to institute the compression method on account of the following indications: progressive case, expectorating large amounts of foul-smelling sputa, physical examination indicating right-sided lesion, abscess suspected, slight infiltration in left upper. The case continued to progress unfavorably until after the eighth inflation, when she began to gain in weight. On several occasions no free pleural space could be found readily. Twice the procedure was for this reason abandoned for a period of three months by the physicians on the service. Once when the treatments were about to be discontinued she was told by the doctor not to come to the operating room for further treatments, but, in spite of this, she repeatedly presented herself and insisted with such pathos that she be given another trial that the doctor decided the only way to get rid of her was to give her gas. Following this physician's service no gas was given for ninety days, during which the patient ate little, lost ten pounds, expectorated large amounts of foul-smelling sputa, suffered from nausea and violent vomiting, elevation of temperature and acceleration of pulse rate, declined rapidly, and as a result was losing her characteristic spirit of optimism. At this time a diagnosis of lung abscess on the right was made. After much painstaking effort the next

man coming in the service succeeded in finding a free pleural space, and since that time no interruptions in the treatments have been allowed. A few days ago she received her 119th refill. Her weight at present is 128½ pounds. The sputa was positive before and only once during the first month of treatment. Since then there have been twenty-two negative reports. Patient was recently returned to her home. She is happy and does not hesitate to say: "Gas saved my life."

Induced pneumothorax can be done by means of a very simple apparatus. We have used only the Murphy outfit, with some changes necessitated by the use of atmospheric air instead of nitrogen gas. It might be stated here that the difference, as far as I am able to judge, between the two is \$28 per month plus the satisfaction of knowing that no emergency case will suffer for lack of nitrogen. Instead of using the atmosphere in the room, a long rubber tube is connected at one end with the intake valve of an ordinary aspirating pump and at the other with a metallic bathroom spray loosely filled with sterile cotton. This end is placed in the outside air, which is then pumped through a bottle of sterile cotton, thence into one filled with a 1-1000 bichloride solution, and from this into the inverted cylinder surrounded by boiling water.

The question, should induced pneumothorax be called an operation or a treatment, can be answered. It should be called a major operation, in so far as aseptic technique goes, but the introduction of a sterile needle through the chest wall will hardly justify the use of the word "operation."

In order to conserve time one nurse remains sterile, while another gets the patients into the operating room and takes care of other details. A physician or nurse operates the apparatus, reads and records the pressures, site of injection and incidents. A certain number of effusions, as a complication in this treatment, can be avoided by observing the principles of aseptic surgery. The needles we use are made by filing the end of an eighteen gauge aspirating needle to an angle of forty-five degrees. There is also a nick filed into the needle about one-sixteenth of an inch from the end. These are carefully cleansed after use by running cold water and a stilette through them several times in order to remove any coagulated blood or tissue. They are then dried by compressed air, stilettes replaced, wrapped in gauze, three in a package, then covered with muslin and sterilized under high pressure for one

hour. By this means the apparatus is ready for emergencies. A number of needles are kept on hand, which eliminates the procedure of sterilizing between cases. This certainly is a surer method of observing in detail the importance of asepsis. A hypodermic of camphorated oil should be a part of the equipment.

All refills, as well as the initial treatment, must be preceded by thorough-going physical examinations. The patient when brought to the examination room is stripped to the waist and placed on the operating table, without a sand bag under his thorax. A sheet is placed over the body below the waist line and the lateral aspect of the chest cleaned with benzine. Two sterile towels are then placed over the thorax, and the operator, after all preparations have been made by himself as for a major operation, selects the site for puncture by means of percussion and his previous observation of the mobility of different areas of the lung. The site is painted with tincture of iodine, and the operator introduces a hypodermic needle so as to make a bleb with a small amount of one-half per cent. solution of novocain. After a few seconds the needle is slowly introduced perpendicularly and the Schleich's infiltration method employed. Care is necessary not to puncture the parietal layer of the pleura. The next step is to pick up the integument surrounding the site, between the left thumb and forefinger with considerable pressure, and with a cataract knife puncture the layers of the skin. Often no hemorrhage follows this pressure method. The left index finger is then placed over the interspace so that its tip almost covers the incision. The needle is held perpendicularly between the tips of the four right fingers and the thumb, while the thick part of the hand rests upon the patient's chest. The needle is then slowly introduced, the index finger acting as a guide and the nail as a brake. Occasionally, slight negative oscillations are observed in the manometer when the point of the needle reaches the parietal layer of the pleura, but as soon as the needle passes through this layer into a free pleural sac the suction, or negative pressure, immediately causes oscillations varying between ten or more to one or two cm. of water. With such oscillations, or in fact with much less amplitude, we have the assurance the end of the needle is in a free pleural space and that air may be allowed to flow into it without danger.

It is best to wait a few moments in order that the oscillations may become stable before they are recorded and air is admitted. During the initial operation air should be given at short intervals and no more than 100 cc. at a time, the column of water being watched continuously. When the total number of cc. have been given, this is recorded along with the readings following. After the needle is withdrawn, the puncture is immediately touched with tincture of iodine and pressure applied by the doctor. The wound is dressed with sterile gauze and the patient instructed to continue the pressure for a few moments. By following this method, and by having the patient immediately change position after the needle is removed, very few complications of surgical emphysema are encountered.

The alarming symptoms of pleural shock or air embolism have occurred once. The patient suddenly became unconscious, respiration irregular, large beads of perspiration appeared on the forehead, and the pulse was rapid and weak. These symptoms disappeared after fifteen or twenty minutes. The treatments were resumed. Later, no free space was found. Patient was discharged fit for work. On another occasion the end of the needle entered a blood vessel, as evidenced by blood in the glass cylinder which is five or six inches from the needle.

The vital part of any apparatus is the manometer, for it registers with exactness the location of the end of the needle. It is to the operator what the compass is to the mariner and a disregard for its danger signals will surely lead to disaster. In addition to a sustained negative pressure with free oscillations, the only condition under which the initial insufflation is warranted, there are other readings of great importance. Fluctuations equi-distant above and below zero indicate that the end of the needle is in the lung. The column of water is uninfluenced when the needle is extra pleural or surrounded by dense adhesions or occluded by tissue or blood. A partial occlusion acts as a valve and the readings are to be interpreted accordingly. When the water rises slowly on the negative side of the manometer, and the pressure decreases slowly without any oscillations during ordinary respiratory movements, the needle is partially plugged. It should be removed and another introduced in

the same tract. Failure to locate the free space is often due to coagulated blood. No attempt should be made to introduce the needle as long as there is oozing at the puncture. After some compression is produced the dosage and the necessary length of intervals between refills can be roughly determined by the manometric readings. Some idea of the elasticity of the mediastinum may be also obtained, but not until the pressure approaches zero or becomes positive. The manometer may confirm the diagnosis of spontaneous pneumothorax.

Here I desire to relate a personal experience, which occurred early in 1915, when I began to treat four cases with large amounts (1200—1600 cc.) of nitrogen gas. From these, I learned such amounts were unjustifiable. The patients, wisely, either left the institution or refused further treatments. Then I arbitrarily fixed my maximum amount,—300 cc. The comfort of the patient, especially after the initial insufflation, his confidence in the operator and faith in the procedure; his co-operation over a long-drawn-out period of time will, in a large measure, be determined by the amount of air or gas given during the first treatment. Small amounts necessarily call for frequent refills, depending on the absorptive power of the pleura. It is our custom to repeat this amount of air twice weekly for three or four insufflations, then to gradually increase the amount until large enough dosage once a week keeps the lung immobile. As the absorption becomes less and the amounts increase, the intervals can be lengthened to meet the need. Hamman states that the normal pleural cavity absorbs about eighty to one hundred cc. of nitrogen gas per day, but after a pneumothorax has existed for several months it absorbs from twenty-five to fifty cc.

It is evident that in the treatment of hemoptysis large amounts of air are necessary without considering the integrity of the opposite lung. In some cases it is frequently not an easy matter to determine the location of the bleeding. On the other hand, in several cases we were treating by compression, frank hemorrhages occurred in the treated lung and death intervened. Four unilateral cases with hemoptysis are included in Table 1, three of which are now working.

In eight cases of hydro- and pyo-pneumothorax,

TABLE 3.
HEMOPTYSIS.

Turban	No. of cases	Sputa		Average No. of treatments	Discontinued or Discharged					Resident		
		Positive	Negative		No free space	Activity opposite lung	Left institution improved	Unimproved	Died	Improved	Unimproved	Refused treatments
R I												
L I.....	2	2	..	4	..	..	..	..	2	..	..	..
R II												
L I.....	3	2	1	2	..	..	..	1	2	..	..	..
R I												
L III.....	5	5	..	7	..	..	2	..	2	..	..	1
R III												
L I.....	3	3	..	4	1	..	1	..	1	..	..	..
R II												
L III.....	1	1	..	3	..	..	..	..	1	..	..	..
Total	14	13	1	4	1	..	3	1	8	..	..	1

treated by replacing a part of the fluid with air, the results have been palliative only.

The greatest obstacles in the use of induced pneumothorax are pleural adhesions. Dr. Joseph Springer, coroner's physician for the County of Cook, recently told me that out of 17,000 autopsies he had held, thirty per cent. of non-tuberculous cases had apical adhesions. This condition obtained especially among alcoholics. In long standing cases of pulmonary tuberculosis we may expect to find the percentage correspondingly increased. Not uncommon is it to discover a pocket in the pleural cavity held down by adhesions. These may be broken up by increased pressure, but the danger of rupturing the visceral pleura and the attending consequences must not be overlooked. Our observations at autopsies have been that if the needle had been introduced, at or near the same site for a number of times, adhesions were present at this location. In six individuals no free space could be found.

begin to disappear or diminish, depending on the amount of compression and the integrity of the opposite lung. The dangers incident to the opposite lung are minimized, if guarded by small amounts of air during the early part of the procedure. The usual complication is the activation of dormant foci. I have discovered rales in the good lung, after several refills, have a predilection for an area between the fifth and seventh ribs in the midaxillary line. Rales in the opposite lung, not autochthonous, are of no consequence. The opportunities for disseminated infection into the opposite lung by aspiration are markedly increased when large amounts of air easily compress the broken down tissue. Success in all cases depends on how the working lung accommodates itself to the new demands made on it. The danger in a voluminous spontaneous pneumothorax is not due to the immobilization of one lung, but to the inability of the opposite to almost instantly take care of the complemental

TABLE 4.
DISCONTINUED ACCOUNT NO FREE SPACE.

Turban	No. of cases	Average No. of treatments	Discontinued or Discharged			Resident	
			Improved	Left institution	Unimproved	Improved	Unimproved
R I							
L II.....	2	1	..	..	1	..	..
R I							
L III.....	10	6	1	..	3	1	1
R II							
L I.....	6	5	2	..	..	2	1
R II							
L II.....	1	1	..	..	1	..	..
R II							
L III.....	4	..	..	..	..	1	..
R III							
L III.....	3	3	1	..	1	1	..
L III							
L III.....	1	5	..	..	1	..	..
R III							
L I.....	5	3	1	..	..	..	1
R III							
L II.....	2	21	1	..	1	..	..
Total	34	5	6	..	8	5	3

A partial collapse sometimes determines the issue in favor of the patient. At the beginning of treatment all symptoms are temporarily increased in severity, but after a few weeks they

duties. Among our unilateral cases activity in the opposite lung sufficient to discontinue the treatments occurred in 2.8 per cent; in the bilateral, 30.7 per cent.

TABLE 5.
DISCONTINUED ACCOUNT INCREASED ACTIVITY OPPOSITE LUNG.

	No. of cases	Average No. of treatments	Discontinued or Discharged			Resident	
			Improved	Left institution Unimproved	Died	Improved	Unimproved
L II.....	2	10	..	1	1	..	..
R III.....	4	13	1	..	3	..	..
L III.....	1	6	..	..	1	..	..
R I.....							
L II.....	2	9	1	..	1	..	..
R I.....							
L III.....	23	8	4	5	13	..	1
R II.....							
L I.....	5	4	1	1	2	1	..
R III.....							
L I.....	21	10	4	4	8	3	2
R III.....							
L II.....	2	1	..	..	..	..	1
Total	60	7	12	11	29	4	4

In addition to the loss of many distressing symptoms, due to lessened antointoxication, the conversion of an open case into a harmless one is of great importance, especially if the length of residence in an institution is limited. In our series 14 cases were negative prior to the first inflation, and 10 became positive during or after the treatments. One died, and 3 were discharged. The only other negative case not tabulated in this report proved at autopsy to be pneumokoniosis. Twelve open cases became negative and remained so after the first operation. Of these, 1 is in the Italian army and 2 are at work. Many were alternately negative at monthly laboratory examinations.

In 2 hopeless cases spontaneous pneumothoraces occurred after the first and tenth treatments, and both terminated fatally. We have found the compressed lung gangrenous in 1 case which came to the autopsy table.

Of the 197 far advanced cases 65, excluding those in Table 3, received treatments less than one month, and only fifteen had, before this method was begun, apparently a favorable prognosis under strict hygienic-dietetic regimen. All of those now classified as working or improved, however, were not in this class. In our tables we have placed only those working who have been restored to an economic efficiency equal to that before breaking down from tuberculosis. One is at the head of a family of six, works nine hours a day as a cabinet maker, lost no time since leaving the institution ten months ago; wages, \$19.50 per week. For 34 months he has been receiving treatments. He now returns for refills every thirty days. One is working regularly, cloth inspector; wages, \$20 per week. One has been keeping books for eight months, is symptomless; wages, \$22 per week. One, a maid, working 15 months; no evidence of any trouble.

One is a member of the 5th U. S. A. Cavalry. One is in the Italian Army. One is a saleswoman, earning a satisfactory wage. One, a chauffeur, union scale wages. Twenty-nine are residents—21 improved, 8 unimproved. Among the improved 9 continue to receive refills. Slides of six of these will be shown. One, whose lung is almost collapsed, is now on one hour and forty-five minutes graduated exercise, practically symptomless and will, barring the unforeseen, be discharged fit for work. One was about ready for discharge when overtaken by a "flare-up" in an old lesion in the opposite lung, the result of too much excitement and exercise incident to a bazaar given by the patients. Her chances for becoming a bread winner are probably better than 60 per cent. One has about an equal chance to become a producer, 4 may be restored to a limited degree of usefulness, while 2 are enjoying a life extension period. One, apparently hopeless, in whom treatments were discontinued on account of no free space, is now enjoying life. He furnishes a good example of a number of cases in whom no compression could be discovered by the Roentgen ray, but who show marked improvement, probably due to the psychic effect. Of those discharged improved, one entered another institution and is counted among those working in Table 2. In a letter just received one patient writes: "I expect to get through a business course in April. I almost forget that I have been sick." Another is improving in a western city, but continuing treatments. Another, left the institution, became pregnant, had a therapeutic abortion performed, and when last seen was apparently no worse for the experience. Recently she joined her husband in China. The abscess case and the one having pleural shock have already been reported.

To Captain Blaine and Doctor Turley, roent-

genologists at the Cook County Hospital, and to the members of our staff, I desire to express my appreciation for their assistance.

DEDUCTIONS.

That success in the use of induced pneumothorax in the treatment of the tuberculous depends on the selection of cases not hopelessly ill.

That a partially collapsed lung often spells reasonable health and sometimes earning capacity.

That usually the part of the lung first to collapse is healthy.

That the manometric readings must be correctly interpreted.

That small amounts of air or gas are indicated at the beginning of this therapeutic measure.

That refills must be given systematically and in increasing amounts.

That, proportionately, more unilateral cases with hemoptysis are at work than any other class.

That although our report has brought out nothing unusual in figures, it is impossible to estimate the joy and satisfaction this co-ordinated method in treatment has brought to many.

DIPLOCOCCUS PNEUMONIÆ.*

FRANK J. NORTON, M. D.

Resident Pathologist, Englewood Hospital, and Consulting Pathologist to the Kelley Clinic.

CHICAGO.

Pasteur, in 1881, described an organism, recovered from the saliva of a case of rabies, which produced a fatal septicemia in rabbits and which he designated *Microbe Septicémique du Salive*. About the same time Sternberg in this country reported the occurrence of a similar coccus in the saliva of healthy individuals. The organisms described by these two investigators are now called pneumococcus, or diplococcus pneumoniae. It was not known at that time that the pneumococcus was associated with disease in man. The systematic investigations later on by Fraenkel on the etiology of pneumonia and Weichselbaum on the occurrence of the pneumococcus in the blood, organs and exudates established the relationship of this organism to lobar pneumonia.

We can very readily see now the wide distribution of this organism and also the proof that it is the etiological factor in the most fatal of the

acute infectious diseases in man. The pneumococcus has been shown by these early investigators to vegetate as a harmless saprophyte in the mouth secretions of normal persons, and that this same organism may give rise to severe and fatal infections in man.

The interpretation of its significance in the epidemiology and specific therapy of pneumonia has been made possible only by the recognition of the biologic relationships of pneumococci by means of immunity reactions.

Morphology. Pneumococcus is a Gram positive coccus. In the exudates on infected animals and on artificial media it is a lance-shaped diplococcus. Variations in the size and form of the cocci may be noticed in different cultures. Oval, round and bacillary forms may occur. Chain formation is common in young, active, broth cultures of pneumococcus. The same culture after 18 hours' incubation will show only an occasional short chain and mostly arranged in pairs. In older cultures of pneumococcus the organisms often appear Gram negative, swollen, with degenerated and involution forms, resulting from disintegration and death of cells. It possesses no flagellae, is non-motile and does not form spores. Capsules are easily demonstrable in animal exudates and by appropriate methods, and may be found in cultures from media enriched with blood or serum. Prolonged cultivation will destroy this capsule. In pneumococcus mucosus the capsule is so pronounced as to be demonstrable by Gram's stain, by which method it appears as a negatively staining halo about the Gram positive cell body. The exact significance of the capsule of pneumococcus is not known. Study of a large number of strains of the pneumococcus shows that there are average differences in capsular developments between Types I, II, III and IV. Type I shows well formed capsules; Type II the capsules are easily demonstrable and are larger and denser than Type I. Type III capsules are always well developed, are very large in comparison with the size of the organism, and may appear as voluminous envelopes about the cell bodies. Cole and Avery state that the amount of capsular development seems to parallel the virulence of these organisms for man as measured by the mortality occasioned by the different types in human infection. In addition, it seems to be true, that the greater the capsular development, the less the amount of passive protection afforded by immune serum.

*Read before the Englewood Branch, Chicago Medical Society, May 2, 1918.

Cultural Characteristics. On media prepared from meat extract, growth is irregular and at best sparse and delicate. The pneumococcus colony on the surface of meat infusion agar, which has been enriched by the addition of a small amount of sterile, defibrinated rabbit blood, presents certain characteristic features. The colony is small, moist, translucent, discrete and round with well defined edges, greenish in color with a checkered-like or ringed topography. The colony is finely granular with a darker center, surrounded by lighter, ringed areas. Pneumococcus on blood media produces a greenish zone about the colonies. In milk and inulin serum water pneumococcus produces acid and coagulation of the medium. Inulin fermentations by pneumococcus is of differential value in distinguishing this organism from streptococcus. There are times when pneumococcus will not ferment inulin and, therefore, this reaction is only confirmatory.

Temperature and Oxygen Requirements. Pneumococcus is not sensitive in its oxygen requirements, and the growth occurs equally well under aerobic and anaerobic conditions. The optimum temperature for cultivations is 37° C., the limits of temperature range being 25° C.—41° C., the thermal death point is 52° C., for 10 minutes. The viability of pneumococcus on artificial media is relatively short.

The addition of defibrinated rabbit blood to media not only enhances the growth of pneumococcus, but prolongs the life of the culture. Cultures of pneumococcus in blood broth preserved in the ice-box remain viable for several weeks.

Virulence. The virulence of pneumococcus is variable. The virulence of pneumococcus for one animal species does not necessarily imply similar invasiveness for the tissues of another. Pneumococci taken from the blood of pneumonia patients are very virulent. Cole states that 0.000001 c.c. of broth culture kills white mice in less than 36 hours.

Bile Reactions. Neufeld first observed the fact that pneumococcus in the presence of bile undergoes solution. Bile solubility is now recognized as a distinctive biologic characteristic of pneumococcus and serves to differentiate it from closely allied organisms such as streptococcus. The active substance responsible for the lytic action of bile on pneumococcus is cholic acid.

Toxin Production. The pneumococcus does not produce or secrete a soluble toxin, but the harm-

ful effects of the pneumococcus are due either to intracellular toxins or toxic split products formed by metabolic activities of the bacteria themselves.

Differential Diagnosis. The pneumococcus possesses certain cardinal characteristics by virtue of which in most instances it may readily be distinguished from closely allied organisms, as streptococcus. Pneumococcus; bile soluble, has a capsule, ferments inulin, very pathogenic to mice, and on blood agar forms a small, moist, flat, ringed, checker-like colony with a greenish zone of methemoglobin about it. Various types of pneumococci react specifically with their homologous immune sera. Streptococcus is not bile soluble, does not ferment inulin, is less virulent for mice; on blood media the colony is more opaque and raised, drier and more coarsely granular without the surface markings or ringed topography characteristic of pneumococcus and is surrounded by a zone of either hemolysis or green pigmentation.

Culture Media. All media should be prepared directly from an infusion of fresh meat and not from beef extract. The reaction of the media should be 0.3 to 0.5 acid to phenolphthalein. The sterilization of the media should be done by the Arnold method, 20 minutes on three successive days.

Staining Methods. The Gram stain is the best one to use. Cole and Avery suggest the Sterling modification. I have been using the Gram's stain as modified by Weber of the Chicago Department of Health and found it to be very satisfactory.

Preparation of Gram's Solutions. Solution No. 1. (Gentian-violet.)

To about 10.00 c.c. of a 1 per cent. aqueous solution of phenol add about 2.00 c.c. of a saturated solution of gentian-violet in 95 per cent. alcohol. The amount of gentian-violet added should not be sufficient to produce a precipitate, but should cause a slight appearance on the surface. This solution keeps readily for several weeks.

Solution No. 2. (Gram's iodine.)

Iodine, 1.00 gram; potassium iodid, 2.00 grams, and distilled water to make 200.00 c.c.

Solution No. 3. (Gram's decolorized.)

Acetone, 1 part; 95 per cent. alcohol, 2 parts. Solution No. 4. (Gram's alcohol.)

Alcohol, 95 per cent.

Solution No. 5. (Gram's counter-stain.)

Carbol-fuchsin prepared as for tubercle stain, 1 part; distilled water, 10 parts.

Directions for using Gram's stain.

Stain with solution number one, Gram's gentian-violet for three minutes and shake off stain without washing in water. Cover with solution number two, Gram's iodine and shake off immediately, freeing the slide of visible precipitate; then add more Gram's iodine solution and leave for two minutes; shake stain off without washing in water. Cover with solution number three, Gram's decolorizer for a few seconds, until visible stain dissolves. Wash by immersion and agitating in solution number four, Gram's alcohol, for a second and wash in running water. Counterstain for a few seconds in solution number five, Gram's counterstain.

Hiss' Capsule Stain. Preparations are best made by direct films from pneumococcus exudates. Dry in air and fix by heat. Stain for a few seconds with a saturated, alcoholic solution of fuchsin or gentian-violet, 5.00 c.c.; water, 95.00 c.c. Flood the slide with the dye and hold for a second over a free flame until it steams. Wash off the dye with 20 per cent aqueous copper sulphate solution. Do not wash in water. By this method the capsule appears as a faint, blue halo around a dark purple cell body.

In this paper I have followed out carefully the principles and technic as set forth by Drs. Cole, Avery, Chickering and Dochez of the Rockefeller Institute. At the Englewood Hospital Pathological Laboratories, Dr. E. E. Simpson and myself performed a great many of the immunologic reactions based on the technic used at the Rockefeller Institute. The results we obtained were very gratifying to us and of an inestimable value in the diagnosis of the type of pneumonia infection.

THE EPIDEMIOLOGY AND PROPHYLAXIS OF LOBAR PNEUMONIA*

WALTER BAUMGARTEN, M. D.

ST. LOUIS, MO.

*Largely an abstract of the results of recent studies at the Hospital of the Rockefeller Institute and elsewhere in the bacteriology and immunology of diplococcus pneumoniae.

Lobar pneumonia is a disease which has been known to be infectious for many years, but the channels of infection have been so obscure and such information as existed was so contradictory

that the application of measure of isolation, usual in many infectious diseases, did not seem justified. No consistent program could be outlined. As a result, no isolation or quarantine has been even proposed by boards of health throughout the country, and in only relatively few communities has pneumonia been made a reportable disease; and even in such instances the regulation has not been enforced.

The basis for more exact knowledge of modes of transmission of lobar pneumonia has been built up in the past few years by studies on the biological characteristics of pneumococci, conducted at the Hospital of the Rockefeller Institute and elsewhere. The studies have shown that not only do pneumococci vary widely in their pathogenicity, but group themselves in specific classes, which are entirely independent of each other in their immunologic reactions and in their virulence.

It has been known for many years that pneumococci are present in the mouth and nasal secretions of many healthy individuals. In one series of 297 healthy persons pneumococci were present in 116 instances. Some of these proved to be pathogenic, others only saprophytic. A biological study of the pneumococci in 454 cases of lobar pneumonia due to pneumococcus has shown that the organisms fall into two groups. The first group consists of three types which are entirely distinct in their agglutination and other biological reactions, immune serum produced in animals by injections of one type causing no agglutination of a suspension of pneumococci of another type. The second group contains strains of pneumococci which have no immunologic relations either to any of the distinct types of the first group or to strains in their own group. The last group has been designated as Type IV, and includes the majority of strains of pneumococci found in healthy persons as well as some pathogenic strains. In the study referred to of the strains of pneumococci obtained from 454 cases of pneumonia Type I and Type II each represent about one-third of the cases, Type III about 13 per cent., and Type IV about 20 per cent., as in the first table:

Type I	151 cases	33.3 per cent.
Type II	133 cases	29.3 per cent.
Types II a. b. x (atypical)	19 cases	1.3—2.0 per cent.
Type III	59 cases	13.0 per cent.
Type IV	92 cases	20.3 per cent.

The distribution of these types, on the other hand, in the mouths of healthy persons as shown

*Read before the Madison County Medical Society at Godfrey, June 7, 1918.

in 116 positive cases in the series of 297 healthy individuals examined, is very different, as the following table shows:

Type I	1 case	0.8 per cent.
Type II	0 case	0.0 per cent.
Type II a. b. x (atypical)	22 cases	0.8—11.6 per cent.
Type III	34 cases	28.1 per cent.
Type IV	64 cases	52.9 per cent.

A comparison of the two series of cases representing the frequency of pathogenic types of pneumococcus in healthy persons and in persons suffering from pneumonia, make it apparent that the types most frequently found in healthy individuals give rise to a minority of cases of pneumonia. With the exception of pneumococci of Type III these are also the least virulent. Type I and II which accounts for two-thirds of the cases of pneumonia, are seldom found in healthy persons. It may therefore be assumed that these cases of pneumonia have not arisen by a process of auto-infection, but that they have occurred through contact with a source which has harbored these types. If cases of pneumonia arose from the pneumococci already present in the individual the majority of the cases should belong to Type IV. But the reverse of this is true. A further substantiation of this view is evident when it is considered that although organisms of Type III are the most virulent of the four types, only 13 per cent. of the cases of pneumonia are due to this organism, while it is found in 28 per cent. of healthy persons.

All other infectious diseases of which we have accurate knowledge in regard to the mode of their dissemination, are transmitted by contact. Such contact may occur in one of three ways. 1. By contact with persons suffering from the disease. 2. By contact with convalescents. 3. By contact with healthy carriers. It has been shown that Types I and II are rare in healthy individuals. Studies of the mouth flora of persons coming in contact with patients suffering from pneumonia caused by Type I and Type II organisms have demonstrated that 13 per cent. coming in contact with Type I harbor pneumococci of the same type, and 12 per cent. of those coming in contact with Type II. On the other hand in the series of 297 healthy individuals not in contact with patients showed one-third of one per cent. of pneumococci of Type I, and no instance of Type II. It was shown, in addition, that these contacts continued to show the same type of organism for a period of three

or four weeks, which is the same period as was found in convalescents from the disease.

A study of another factor of the environment of pneumonia patients yields important information. The dust was examined in sixty-two rooms which had never been occupied by pneumonia patients. In eighteen, or twenty-nine per cent., pneumococci were found. The distribution of the types of pneumococci in this dust was as follows:

Type I	1 room	5.5 per cent.
Type II	0 room	0.0 per cent.
Types II a. b. x (atypical)	0—4 and 3 resp.	0.0—22.0—16.6 per cent.
Type III	2 rooms	11.0 per cent.
Type IV	8 rooms	44.4 per cent.

In 183 rooms in which pneumonia patients had been cared for the dust showed pneumococci in 74 or 40 per cent. The frequency of occurrence of the types of pneumococci was as follows:

Type I	25 rooms	33.8 per cent.
Type II	23 rooms	31.0 per cent.
Types II a. b. x (atypical)	0—2—2 rooms	0.0—2.7—2.7 per cent.
Type III	2 rooms	2.7 per cent.
Type IV	20 rooms	27.0 per cent.

These types correspond in every instance to the type of pneumonia present in the room. As is evident from the figures, Type I and II are much the more frequent, and correspond closely to the figures of the percentage which they represent of the total cases of pneumonia.

The conclusions to be drawn from the facts presented are of utmost importance. Lobar pneumonia in a large proportion of instances is caused not by organisms which are present in the mouth and nasal secretions of healthy persons, but by organisms brought in from without. These organisms belong mainly to Type I and II which furnish over 60 per cent. of the cases. They are found only in the environment of persons sick with these types, or in the environment of carriers,—that is, they arise from patients, from convalescents, from healthy carriers, or from the dust of the rooms which these individuals occupy. The conditions surrounding the other two types are more complicated, and are not sufficiently definite to permit conclusions.

These conclusions provide a sound basis on which preventive measures may be instituted. It has been shown that lobar pneumonia is easily communicated from one individual to another, and this evidence forms a justification for carrying out measures which are similar in principle to those carried out for the prevention of the already recognized communicable diseases. Each

case of lobar pneumonia is a focus for the spread of the disease. Every patient so afflicted should be isolated. The sputum should be collected and burnt or otherwise disinfected. Utensils, personal linen, and bed clothes should be sterilized. The sick room should be cleaned daily in such a way that the dust is not disseminated, and at the end of convalescence should be thoroughly cleaned. The information at hand constitutes also complete justification for the institution of compulsory reporting of cases of pneumonia, and the quarantining of the house which the patient occupies. The period of such quarantine should, from the facts at hand, be made not less than three weeks, preferably four.

The efficiency of quarantine depends partly upon the control of the healthy carriers among the contacts, and meets the same obstacle as is encountered in the control of cerebro-spinal fever. Carriers consist of two classes, the convalescent patient, and those, relatives and nurses, who have been in intimate contact with the patient. The convalescent presents no great obstacle, but some such check in the raising of quarantine should exist as is provided in cases of diphtheria in requiring several successive negative cultures. In the case of healthy carriers control is a much more difficult problem, though its importance is equally great for that they, too, as well as convalescents harbor organisms for three or four weeks. Isolation of these persons is not at present possible, and will require a much more extensive education of public opinion. Certain precautions, however, may be exacted. Promiscuous spitting must be avoided. The same may be said of kissing. Disinfecting mouth washes and nasal douches should be frequently and faithfully used. In convalescents this last precaution is probably not so effective, for the source of infection probably lies in the deeper respiratory passages as well as in the mouth and nose. The control of carriers may, however, be carried out under some conditions. It becomes of utmost importance in hospitals of all sorts, in prisons, and in military cantonments to check epidemics of pneumonia, and here isolation of carriers for the proper length of time and properly controlled by cultures should imperatively be carried out even though it causes some loss of time.

A final aspect of this subject lies in the possibilities of prophylaxis by means of the produc-

tion of artificial immunity. Just what individuals are susceptible we have no means of determining as is the case in diphtheria by employing intradermal injections of toxin. The production of immune sera in animals has, however, amply demonstrated that an artificial immunity can be obtained. Lister, in South Africa, where pneumonia is very prevalent among the natives, has shown that this can be done for man. He concluded that for prophylactic purposes three subcutaneous injections of 6,000 million organisms representing all types of pneumococci should be given at intervals of seven days. He found that immune bodies were demonstrable eight months after injection and that immunity was conferred for an indefinite period. The workers at the Rockefeller Institute have found that a higher degree of immunity can be more quickly produced by intravenous injections of small doses at frequent (daily) intervals. The use of this method in civil populations and in the army has not been fully determined, but it is believed that it would result in a large saving of life.

Humboldt Building.

A STUDY OF LOBAR PNEUMONIA.*

ELMER E. SIMPSON, M. D.

CHICAGO

Lobar pneumonia was recognized as a distinct clinical entity in the time of Hippocrates. In the 16th and 17th centuries widespread epidemics are reported to have occurred, in which the character of the disease seems to have been somewhat different from that observed in modern times. At present it is a common infection throughout the United States and Canada and in fact, throughout the Temperate Zone, and to some extent in the Tropics.

The United States Government health reports for the week ending January 5, 1918, give Chicago 168 cases of pneumonia, with 89 deaths, which heads the list for the entire United States in point of numbers. Philadelphia comes next with 125 cases and 75 deaths. The next highest number is Boston, with 56 cases and 61 deaths, the excess of deaths being cases carried over.

For week ending January 12, 1918, Chicago had 218 cases with 91 deaths, Philadelphia, 235 cases with 95 deaths, Boston, 66 cases with 36 deaths.

*Read before the Englewood Branch, Chicago Medical Society, April 2, 1918.

In the careful tuberculosis canvass which Dr. Robertson made of a portion of this city, by lung experts, he found five times as many cases existing as were actually reported. If this proportion could be applied to pneumonia it could readily be seen how alarmingly prevalent is this dread disease in our city. Chicago and Philadelphia are far in the lead of all other cities.

Many people believe pneumonia to be a disease of the very young and the aged, but about one-third of the cases occur during the period of greatest activity, twenty to fifty years of age.

As previously observed, the history of pneumonia dates back to the beginning of medicine, and all sorts of treatment have been instituted, from the most heroic—much medicine and bleeding, to the other extreme—no medicine and fresh air. Then came the serums and vaccines applied in every conceivable form, to little or no avail, when the discovery was made that, while a diplococcus is always present acting as an exciting cause of the disease, it does not appear to be always the same type of diplococcus. So after much labor, including the excellent work of Avery, Chickering, Cole, Dochez, and others, it has been determined that the exciting cause of pneumonia is a diplococcus, but that there are four strains, and for want of better terms they are designated as groups I, II, III and IV.

There is some slight cultural difference between the groups, but the essential and diagnostic difference lies in their immunologic reactions. That is, a pure culture of one group, say number I, mixed with the blood-serum of a horse which has been immunized to that particular group, will cause an agglutination of the bacteria of the culture, just as in the case of typhoid in the Widal reaction, and likewise groups II and III. Those failing to respond to groups I, II and III, are classed as group I]. This group is further characterized by slight cultural differences, growing luxuriantly but with a thicker, more slimy and shining appearance. This group is more benign in its action, with a low mortality, and is supposed to be the organism found often in apparently normal throats and nasal passages, and is in fact, almost always present in some form.

There is good evidence, contrary to the opinion previously held, that pneumonia, in a large proportion of cases at least, arises from infection from without. This evidence relates mainly to

the cases due to infection with type I or II pneumococci, which organisms are responsible for 60 per cent. of the cases. Pneumococci of these types persist for a limited time only in the mouth of patients who have had the disease, and are very rarely, if ever, present in the mouth of normal persons who have not been in immediate contact with such patients. Pneumococci are not infrequently found in the dust, but those types, I and II, are practically never found excepting in the environment of persons sick with the disease or in the environment of carriers. Possible sources of infection from these types are, therefore:

1. Other patients suffering from pneumonia due to the same type of pneumococci.
2. Persons who carry these organisms during convalescence.
3. Healthy carriers, or persons who have acquired the organisms by close contact with patients.
4. Dust from infected rooms.

We therefore see the justice in making pneumonia a placardable disease. In fact it would seem that the restrictions should go much farther than that. There is no question about the contagious character of the disease. It is one of the dreaded maladies that often become prevalent where large numbers of susceptible individuals are brought together. The census of 1900 showed that over 10 per cent. of all deaths in the United States were due to some variety of pneumonia. Many serious epidemics have occurred, notably that among the workmen in the construction of the Panama Canal. A fine illustration of the contagious nature of the disease is recorded in "The Military Surgeon" for August, 1917, p. 196. "On March 1 Private C and Private K. of M. Company, 17th Infantry, were admitted with type I infection, both men from the same tent. Private K. had been in the guard house for two weeks and on release on February 27, went to quarters with a temperature. He slept in Private C's bunk part of the time, and in two days Private C had a chill and both men were sent to the hospital with lobar pneumonia.

Heretofore it has been difficult to trace epidemics of pneumonia because of the uncertainty of the character of the infection, but now that the specific type can be worked out, it makes the work much more accurate. If Private C. had contracted pneumonia at that particular time,

of type II, III or IV, contagion could not be proven in this instance. But Private K. had type I infection and Private C. also had type I infection. Cultures were made from the mouth of all other men in that tent. Only one case was found with type I infection in the mouth, and that became negative in a few days after the sick men were removed to the hospital."

"After a careful study of the matter," Major Nichols in the above article says, "In the light of our present knowledge, pneumonia must be placed in the list of contagious diseases whose cause can be found in the nose, throat and mouth, along with meningitis and diphtheria. The method of transmission of the known virus from actual cases and carriers is the same in all three diseases and the problem of prevention is also the same."

He suggests that an immunity might be established by vaccination, such as that now practiced for typhoid in the army. Certain it is that in civil life much can be done by way of prevention. First by avoiding as far as possible, contact with the contagion; and second, by scrupulous care of nose, throat, and mouth during the epidemic period. While no special virtue can be ascribed to any particular drug as an antiseptic agent, still we are bound to admit the efficacy of scrupulous care and cleanliness.

At the Rockefeller Institute, animal experiments have shown that it is very easy to produce active immunity to pneumococci by the injection of small doses of dead organisms, even in animals as susceptible as the rabbit and the white mouse, and this immunity persists for a considerable time. It is theoretically possible, therefore, to immunize men to the fixed types of pneumococci by the injection of dead cultures. The advisability of doing this in a civilian population has never been seriously considered. There are undoubtedly marked differences in the susceptibility of individuals to pneumonia infection, just as there are differences among individuals in susceptibility to diphtheria.

Suppose a person has come in contact with the disease and passed the incubation period in nose, tonsil, or throat and has a chill and the doctor is called. The patient is removed to the hospital and a blood culture made and sputum and urine saved. Pneumococci can often be recovered from the blood stream if taken under strict aseptic precautions soon after the chill. The limit of

time when this can be done successfully varies from a few hours to several days. About 1 cc of blood is drawn from the median vein of the arm, one-half is introduced into each of two tubes of broth media. The pneumococcus grows very rapidly in broth culture and soon makes the solution turbulent. In this luxuriant young growth it is common for the organism to grow in chains, but on longer incubation (18 hours or longer) they assume the typical pair formation. This organism will grow either aerobic or anaerobic, and stains Gram positive. The sputum is usually bloody or so-called "rusty sputum." A smear is prepared and stained Gram method, and examined for two reasons:

1. To see the number of pneumococci and how they predominate as compared with other bacteria found in the mouth.

2. To see if the bacteria are evenly distributed throughout the sputum or whether there is an effort at phagocytosis. The case may be regarded much more favorably for the patient if we see the bacteria attracted to the leucocytes. Occasionally it will be seen that a leucocyte will have a great many diplococci in and around it, so that the leucocyte with its group of satellite-like bacteria will appear as an island in the usual ground-work of the slide. This would seem to indicate that the blood in this individual had effectual fighting or phagocytic qualities, and that nature was prepared to make greater resistance in behalf of the patient than in the case where the bacteria and leucocytes lie scattered evenly throughout the slide with indifference to their presence, the one to the other.

To return to the patient we have started to treat: We have made a blood culture and placed it in the incubator, and stained a slide and examined it. But before proceeding to the next step, a word here about collecting the sputum. The best method is to have a large-mouth bottle, about 120 to 180 cc capacity, thoroughly washed and sterilized and fitted with a cotton cork.

The patient is requested to brush the teeth and wash the mouth with a normal salt solution, and just before coughing, if possible, the mouth is washed again, the patient coughs and expectorates directly into the bottle. As soon as possible after a small quantity is collected, it is taken to the laboratory and prepared and a slide made as directed above; also a portion is injected into the peritoneum of a white mouse.

After inoculation the mouse is kept in a glass fish bowl, for several reasons: First, it can be thoroughly disinfected each time before using. Second, the mouse is isolated so as not to infect other mice, the white mouse being peculiarly susceptible to this disease. Third, the bowl being glass, the behavior of the mouse and the progress of the disease can be observed without disturbing him. The length of time the mouse will live depends somewhat upon the virulence of the injected bacteria. It seems best not to inject too much sputum. In case too much is injected the mouse is so completely overwhelmed that he dies before sufficient time has elapsed to get the antibody formation necessary for the subsequent steps in the test. Two or three drops of the emulsion made by rubbing up the sputum with a little normal salt solution is sufficient, and in injecting it care must be taken to go between the skin and the peritoneal wall, so as not to injure deeper structures. Usually the mouse dies in 12 to 24 hours. If time is a very important factor in the case we need not wait for the mouse to die, but kill him with chloroform after he has become very sick, and go on with the test. The four feet of the mouse are stretched out on a board and fastened with pins, the hair of the abdomen wet so as to prevent the fine ends of hair floating around, and then the skin of the abdomen carefully dissected back, special care being exercised not to penetrate the abdominal wall. With a sterile pipet drawn out to a long thin point, normal salt, 2 or 3 c.c., is drawn up into the pipet, the sharp end is passed through the abdominal wall and the injection made into the abdominal cavity. The serous surface of the abdominal cavity is thoroughly washed by a kneading pressure on the outside of the wall, then the salt solution and serum mixture is drawn back into the pipet. In a small rack four small test tubes have been placed containing horse serum from horses that had been immunized to the particular strain in question. In the first tube we have one or two drops number I type. In the second tube five or ten drops number I, in the third tube five or ten drops number II, and in the fourth tube five or ten drops number III. To the first tube ten times the quantity of peritoneal fluid is added. To each of the other tubes an equal quantity, and then the frame with all the tubes is placed in the incubator to await the agglutinating process which will take place in five minutes to an hour,

in the specific tube corresponding to the type of infection in question. If there is no agglutination in any of the tubes and still there is evidence of pneumonia clinically, as well as diplococci in the sputum, then we must regard the type as class IV.

The balance of the salt solution and serum obtained from the abdomen of the mouse is put into a high-speed centrifuge and centrifuged until the super solution is perfectly clear, when a little of this is floated on I, II and III horse serum for the precipitation test. In the tube corresponding to the species in question will appear a white ring of precipitation at the union of the two fluids. The type determined by this test must coincide with that obtained in the test by the agglutination method.

In patients who are very ill the urine will show a precipitate test when brought in contact with horse-serum immunized to the particular strain in question. It is said that this precipitate can be filtered out, dried, then redissolved and injected into other animals and recovered from their urine, showing that this precipitate is some substance having a particular affinity for the kidney and eliminated almost exclusively by that organ.

We now have our type of pneumonia determined and it takes usually 12 to 24 hours to do this. The advantages derived are:

1. It may be a guide to treatment.
2. A valuable guide in prognosis.

Treatment.—There is probably no infectious disease for which more vaunted forms of treatment and so-called cures have been proposed than for pneumonia.

No man in this country is better informed on the subject of pneumonia and more capable of giving advice in its management, probably, than Dr. Cole of the Rockefeller Institute, and the following remarks are taken almost wholly from his writings. He says: "There is probably no infectious disease for which treatment has accomplished less than pneumonia. The amount of harm that has been done by treatment in this disease is difficult to estimate, but it is not inconsiderable.

"Recovery from pneumonia is often such a striking and dramatic episode that it is not surprising that undue credit may often be given to some measure tried just previously, when in reality it may have had nothing to do with the

happy results; so that too often a treatment is established and maintained for a season, by argument rather than scientific observation and trial."

Knowledge of the disease has been increasing, the various phenomena comprising the disease are being subjected to critical scientific analysis, and we are now in a position to employ a few measures, at least, which are the result of this careful and critical study. Outside of these few fixed facts the physician safely employs only those simple measures supported by common sense, that have been shown to do no harm.

Acute lobar pneumonia is the easiest of the acute infectious diseases to diagnose correctly if it appears in its classical form with sudden onset following a chill and pain in the chest, followed by high fever. But on the other hand, there are few of the acute infectious diseases where the diagnosis has often come so wide of the mark, especially where the onset is gradual, with a number of days or weeks of choryza or mild bronchitis before the actual onset of the pneumonia. So that it has become almost imperative in making any diagnosis in an acute infection, to first eliminate pneumonia. It is important not only that the diagnosis be made, but that the etiologic agent in each case of pneumonia be determined.

As has been stated, there are four types of pneumonia. These different varieties of pneumococci differ for the most part only in their immunologic reaction. So far no marked distinctive cultural differences between them have been detected. Now serum treatment has been demonstrated to be of value only in the cases due to type I. This type comprises about one-third of all the cases of pneumonia. If the serum treatment be applied indiscriminately to all cases, it is evident that two-thirds of the cases would receive large doses of serum without any benefit. The detection of type I is, therefore, important, and should be made early, since the value of the serum treatment depends largely upon the time at which it is administered.

It is usually very difficult to give these patients the care they require, in a private home. They can usually be taken to a hospital, but it should be stated with great emphasis that the patient with lobar pneumonia should never be allowed to sit up or to dress himself, much less to walk to a chair or to the ambulance. If the patient is to be treated at home, a room should

be chosen which can be well ventilated by opening the windows from the top and the bottom.

While the laboratory is determining the type of pneumonia we are dealing with, we should determine as quickly as possible whether or not the patient is sensitive to horse serum and to desensitize him if he has even slight grades of sensitiveness, since it is well known that in highly sensitive patients the administration of horse-serum may give rise to alarming symptoms. Fortunately, such reactions are rare and will be taken up at length later on.

To detect whether a patient is sensitive to horse-serum or not, a very small amount 0.02 c.c. of horse-serum diluted in salt solution of 110, making the amount of horse-serum 0.002 c.c., is injected intracutaneously (not under the skin) of the forearm. As a control, on the same level of the arm is injected a similar amount of salt solution. In both cases, if the injections have been made correctly, slight wheals are seen, showing the depression of the hair follicles. These wheals disappear in a very few minutes as the fluid diffuses into the surrounding tissue. If the patient be sensitive, within an hour there appears at the site of injection of the horse-serum a definite, urticarial wheal surrounded by an area of erythema. The size of the wheal and of the erythematous area is roughly proportional to the degree of sensitiveness, which the patient possesses. If these signs do not appear within an hour, it is very good evidence that the patient is not highly sensitive to horse-serum, but is not conclusive proof that some reaction may not occur when large doses of serum are given. It has been shown, however, that even sensitive patients may be rendered insusceptible to the injection of large amounts of horse-serum by previous injection of very small amounts which are insufficient to produce symptoms. Indeed, it has been shown that serum may be safely injected into highly sensitive animals provided the injections be made slowly enough. It is a very good rule, therefore, that about an hour following the intracutaneous injection, 0.5 to 1 c.c. of horse-serum be made subcutaneously. This is usually sufficient to desensitize the patient if intravenous injection of the serum is to be made within the next 24 hours. It must be remembered that this last injection of 0.5 to 1 c.c. is not a test injection, but is for the purpose of desensitization. Such subcutaneous injections rarely give rise to local phenomena,

and the only evidence such an injection would give of sensitiveness would be a general anaphylactic reaction. If the intracutaneous test has shown the patient to be sensitive to horse-serum, more complex and elaborate efforts must be made to desensitize him. But it is advisable not to carry these out until it has been determined whether or not serum is to be administered.

It seems advisable in order to save time, that in every case of pneumonia, as soon as the clinical diagnosis is made, the intracutaneous injection of 0.5 c.c. of serum be carried out as described. Usually within 8 or 10 hours the diagnosis of the type of infection can be made. If it is shown that the patient is suffering from infection with organism other than pneumonia of type I, no form of specific treatment should be attempted. If, however, the case is found to be due to pneumonia of this group, serum treatment can be immediately begun. Other general methods of treatment should not be neglected, however, and in the cases due to infection with organisms other than type I pneumococci, we must rely entirely upon these more general and non-specific methods.

Diet, nothing special different from other febrile diseases.

Purgatives. In times past physicians employed active purgatives at the onset of pneumonia, just as was done at the onset of other acute infectious diseases. There is little to be gained by active purgatives in this disease. There is a direct relation between a pneumonia infection and intestinal symptoms and it is not at all uncommon for an acute pneumonia to be operated on as an appendicitis. In the absence of intestinal symptoms care should be taken to prevent bringing them on by administration of purgatives. It is important that the bowels should move every day, either by the use of mild laxatives or better, by an enema every morning.

In most cases of pneumonia, during the early days of the disease, little or no drug treatment is required. It is the practice at the hospital of the Rockefeller Institute to commence the administration of digitalis very early. The purpose of this early administration is not to produce immediate effect upon the heart, but to put the patient into such condition that later on, if need arise, physiologic digitalis effects may be obtained quickly by administration by mouth. For this purpose they give 1 g.m. digipuratum over a period of two days, and at the end of this time,

unless there are signs of cardiac insufficiency, the administration of this drug should be discontinued.

Pain in Chest: 1. Flaxseed poultice, or 2. Ice bag, may help occasionally, but the real value is questionable.

Cough and Pain: Small doses morphine hypodermically, but given with caution in old and young.

Cupping, like ice bag and poultice, of questionable value. The slight redistribution of blood and fluid in the neighborhood of the lesion by such methods, can have very little effect upon the course of the inflammatory processes within the chest.

Soft-padded pneumonia jackets grateful to the patient and good.

Bath packs, sponging: In most hospitals at the present time some form of hydrotherapy is employed. The tub bath has been pretty generally discarded. Cool sponging and packs are about the only forms in use now. Dr. Cole says, "Personally I believe that in most cases the harm caused by the disturbance of the patient more than offsets the good accomplished by such measures. Moving, turning, or otherwise disturbing the pneumonia patient should be avoided as far as possible. Only the physical examinations required in order to follow the course of the disease should be made. Patients with pneumonia should never be allowed to sit up in order to have the back examined."

Open Air. The open-air treatment has now had an extensive trial. Certain very enthusiastic supporters have carried out the method to the fullest possible extent, but it yet remains to be demonstrated that its application has resulted in any lowering of mortality. However, it has been abundantly demonstrated that the treatment of the patient in the open air, even in the coldest weather, can be carried on with impunity. The clothing of the patient should not be changed or the patient examined in the open air. Patient should be carefully watched to see that there is no exposure to the cold.

Stimulating Drugs. No one has made out a clear case for the use of strychnia or camphor in these cases.

Alcohol. In uncomplicated cases, in persons not accustomed to its use, the value is very doubtful. In the case of alcoholics, it may be of some value.

Abdominal Distention. Among the most unfavorable symptoms that may arise during the course of pneumonia is the occurrence of abdominal distention. In certain cases it is merely the sign of gastro-intestinal disturbance, possibly decreased mobility, owing to involvement of the diaphragm. In most cases, however, where it is marked and severe, it is one of the evidences of extreme and severe intoxication, and the paralysis of the bowel is probably of central origin. In the latter case the symptom is not of such great importance in itself, but it is a sign of the gravity of the infection. It is true that abdominal distention from whatever cause, has a purely mechanical effect which is unfavorable, namely, pressure upon the chest, thereby lowering the area of lung space. For this reason, if no other, efforts should always be made to relieve the symptom. The proer application of stupes and the use of enemas in the milder cases usually bring relief. In certain cases temporary relief is obtained by the use of pituitrin given hypodermically, but Dr. Cole says its value has been overestimated. In certain cases none of these measures will bring relief. In these cases the distention persists until death. The time to treat abdominal distention is when it first occurs.

In review Dr. Cole says: 1. All cases suffering from pneumonia due to Type I should be thoroughly treated with serum.

2. Careful nursing, and intelligent watchfulness on the part of the physician is necessary.

3. Tonic effect on the heart and circulation can best be met by judicious and prompt use of digitalis.

4. Use of other drugs for cardiac and respiratory stimulation of extremely doubtful value.

5. The use of small doses of morphin for pain and restlessness is good practice if proper care and discretion is exercised.

6. The use of alcohol for alcoholics only, is good.

7. Hydrotherapy and ærotherapy should be used with moderation and discretion. Their object is simply to conserve the patient's energies and make him comfortable. Neither has much effect upon the infection itself.

8. We possess no drug which has a specific action upon this severe and important infectious disease.

6562 Stewart Ave.

TRENCH OR WAR NEPHRITIS (IS IT A CLINICAL ENTITY?)*

MILTON MANDEL, M. D.

Major, Medical Corps, U. S. Army, Senior Divisional Medical Consultant, General Medicine, 11nd Corps, American E. F., France.

Since August, 1914, much has been written on conditions supposedly due to trench life. "Trench Fever" is now recognized as an acute infectious disease transmitted by lice; "Trench Foot" results from vasomotor changes unquestionably due to cold, moisture and filth; and so-called "Trench Nephritis" is clearly an acute parenchymatous nephritis of uncertain etiology, but probably of infectious origin.

Is trench nephritis a distinct clinical entity? There is absolutely no reason to believe that it is. It differs in no way from the ordinary exposure nephritis, met with in civil practice. That it is of infectious origin, is, I believe, no longer questioned. Its sudden onset, often with fever, the severe head and back ache and the usual slight increase of the leucocytic count, all suggest an acute infection. The nature of this infection has not yet been determined. However, I have no hesitancy in stating that the organism or virus which causes trench fever is in no way responsible. Trench fever is frequently accompanied by albuminuria, but nephritis forms no part of its picture and very rarely complicates it.

Atrium of Infection. Granting that war nephritis is infectious, what is the nature of the infection and how does it gain access to the body? Blood cultures are invariably negative. The history of a previous genito-urinary infection is relatively uncommon. Antecedent tonsillitis, bronchitis and in many instances simple "colds" are points frequently elicited in taking histories from these patients. In fact, so frequently does infection of the upper respiratory tract antedate the onset of the findings which characterize war nephritis, and so constantly do symptoms referable to this tract accompany the disease, it is fair to assume that the probable atrium of infection is the nose or throat, though the exact nature of the infecting organism is still to be determined. In a small percentage of cases a history was obtainable of scarlet fever or diphtheria in childhood which had been followed by "kidney trouble."

*Authority to publish granted. Board of Publications, S. G. O., Casey A. Woods, Lt. Col., M. C., Oct. 25, 1918.

Symptoms. The history obtained from patients suffering from war nephritis is quite uniform. Indisposition may date from a recent attack of sore throat, a "cold," or a bronchitis which is often attributed to slight gassing, although no evidence is obtainable that the victim has been gassed. Distinctive prodromata are common, e. g., severe frontal headache and backache, accompanied or followed by nausea and vomiting and occasionally severe diarrhea. Vomiting and diarrhea are sometimes troublesome throughout the course of the disease. Low grade fever, ninety to a hundred, point five degrees F., a slight increase of the polymorphonuclear leucocytes (9,000 to 12,000), and slightly hurried breathing are usually present. These symptoms are followed in from hours to days by the cardinal symptoms of the disease, which are absolutely unmistakable and from which the diagnosis is readily made.

1. *The Urine.* It is markedly decreased in amount, acid reaction, highly colored (smoky during the first few days), high specific gravity and rich in albumin. Microscopically, coarsely granular and hyaline casts abound. Pus cells are fairly numerous and large numbers of red corpuscles are present during the early days of the disease—much more numerous than usually seen in the exposure nephritis of civil life.

2. *Anasarca.* Puffiness of the face, hands and feet is usually the first evidence the patient has of serious disease. As in the acute nephritis of civil practice it is most noticeable in the morning, most marked in the face, hands, feet and the cellular tissues of the genitals. In the very severe cases fluid accumulates in the serous sacs, especially the pleurae, and involvement of the abdominal wall, buttocks and postero-lateral aspects of the chest wall has been observed. It is my belief that the effusion of fluid into the tissues results largely from changes in the vessel walls, rendering them more permeable, rather than from actual blood changes.

3. *Anemia.* The blood constitutes the only striking difference between war nephritis and acute nephritis of civil life. In the many cases which I have observed it has neither been constant nor severe. It is frequently entirely lacking. Only twice have I observed a pronounced degree. At first it was difficult to reconcile the mildness of the anemia with the severe hematuria which is so common during the first few days.

However, the latter symptom, though early and usually intense, rapidly subsides.

The heart is usually slightly enlarged to the left and the second aortic tone may be accentuated to compensate for the slightly elevated systolic blood pressure which averages 130 to 140 mm. Hypertension is unusual. Hurried breathing is common but actual dyspnea, especially when accompanied by high blood pressure, is always suggestive of an acute exacerbation of a previously unrecognized chronic nephritis. It is in this latter type that true uremia develops, with convulsions, coma and the various somatic and neurologic disturbances usually described under the head of "uremic manifestations."

Course and Prognosis. The onset of war nephritis is usually quite abrupt, the course is relatively rapid and the prognosis as to life is almost uniformly good except where the acute nephritis is superimposed on an old, probably unrecognized interstitial nephritis. (This type has been most frequently observed in older patients, e. g., 35 to 45 years of age.)

Under adequate therapy the anasarca frequently disappears in seven to fourteen days; the urine increases in amount and in the majority of my cases, the casts had disappeared from the urine within three weeks. Albuminuria may persist long after the cylindruria has subsided. In a large majority of the cases which I was able to keep under prolonged observation recovery was clinically complete. Roughly five per cent. of this series were suffering from their second attack. In three cases occurring among the personnel of U. S. Base Hospital No. 12 (with which I was associated until quite recently) there has been no recurrence despite the arduous duties, long hours and unfavorable climatic conditions to which the men were subjected. Their clinical records are quite typical and are briefly recited as follows:

Miss X., Army Nurse Corps, attached U. S. Base Hospital No. 12, age 43 years. Absolutely no history of previous illness. Complained of headache for several days and then noticed swelling of face and puffiness of hands and feet. Urine contained large amounts of albumin, many casts and red blood cells. Twenty-four hours later became dyspnoic and headache was more intense. Blood pressure (systolic), 155 mm.; second aortic tone greatly accentuated. Hot packs were used and milk diet prescribed. Symptoms subsided gradually, marked improvement being noted in about two weeks. At the end of six weeks patient was apparently well,

but because of her age it was deemed advisable to return her to the U. S. She has been home about six months and is working in a base hospital.

Private Y., attached U. S. Base Hospital No. 12. Age 21 years. Entered hospital August 8, 1917, because of intense headache and marked swelling of face, hands and feet. Urine contained large quantities of albumin and many casts. Systolic blood pressure 135. At the end of three weeks he was entirely well and to date has had no recurrence.

Private Y., attached U. S. Base Hospital No. 12. Age 22 years. Complained of headache and weakness for about two days and then noticed puffiness of the face. He entered hospital Nov. 5, 1917. Headache was severe, prostration marked, and he complained much of dizziness and nausea. Examination revealed a generalized anasarca, most marked in hands, face and feet. Heart was slightly enlarged to the left and systolic blood pressure registered 140 mm. Urine contained albumin, casts and red blood cells. Nov. 12 the subjective symptoms had subsided, the anasarca was greatly reduced and the urine contained albumin, but no casts. Discharged Nov. 28, "cured," and to date no recurrence.

Treatment: There is no point in entering on a detailed discourse on treatment. Did conditions in the field and at the base permit, therapeutic procedure would differ in no way from that followed in civil practice. During times of stress patients are kept at Base Hospitals only until their condition has improved sufficiently to permit of removal to hospitals far distant from the front where facilities are such that they can be retained indefinitely if necessary.

War experience with large numbers of cases has taught that rest and good hygiene are all important. Special diets, though possible to obtain in a few selected cases, lack the variety and are much more simple than in peace times.

Briefly, the treatment used at U. S. Base Hospital No. 12 is as follows:

1. Rest in bed, and, if conditions necessitate, early removal further to the rear, evacuating as a lying ease. Under no circumstances should patient be allowed to walk about so long as anasarca persists or urine contains blood or many casts.

2. Diet. Non-nitrogenous and salt restriction in light and moderately severe cases, while in the more severe a milk diet has proven most helpful. During the anasarca stage fluids, other than milk, are restricted, but rapidly increased as the anasarca subsides.

3. Elimination is maintained by daily warm sponge baths and saline laxatives. Tubbing be-

ing impracticable, hot packs are used for threatened or developed uremia.

4. Phlebotomy. Venesection, withdrawing sixteen to twenty ounces of blood, is valuable in cases exhibiting hypertension and has proven a life saving measure in convulsive and comatose uremies.

My experience with war nephritis has been interesting and instructive. I had been led to believe that it was a distinct clinical entity but find that it differs from the so-called acute exposure nephritis only in degree. It is less severe, the course is more rapid, complete recovery more often occurs, chronicity is much less often a sequel and a fatal issue is a rarity.

SUMMARY.

1. Trench or war nephritis is not a clinical entity but corresponds to the acute exposure nephritis of civil life.

2. Trench nephritis is in no way related to trench fever and rarely complicates it.

3. It is characterized by the typical urinary findings and anasarca of acute exposure nephritis but anemia is less pronounced.

4. Uremia is infrequent and occurs particularly in acute exacerbations of unrecognized chronic nephritis.

PROPER DIAGNOSIS AS A GUIDE TO PROGNOSIS AND OPERATIVE TREATMENT OF IMPAIRED HEARING.

ROBERT SONNENSCHNEIN, M. D.

CHICAGO.

Correct diagnosis is probably the most important factor in modern medicine. Since the symptomatic treatment of pains and other disabilities is usually merely palliative, the prevailing idea is to make an accurate diagnosis on anatomical and pathological lines, in order to treat specifically, if possible.

This is not intended to be a highly scientific or technical paper, but merely a short discussion of the rationale for a proper differentiation in the etiology of ear affections; together with a plea for the avoidance of indiscriminate operative or other measures based on faulty diagnosis.

Recently there has been a great tendency to apply surgical methods in the treatment of the ailments classified in one specialty or another. With the birth of the "focal infection" theory

a vigorous search and inquiry were instituted, and the various nooks and corners of the body explored to find the offending area. In the field of oto-laryngology, but especially in that of the pharynx and nasal accessory sinuses were sought the cause of and the solution for involvement of many parts, such as the joints, muscles, eyes, etc.

The affections of the ear, however, which result in impaired hearing, have not as a rule been regarded as due to a focal infection, I mean those involving the auditory nerve. It is true that an infection in the pharynx or nose often extends up the eustachian tube, infects the middle ear and the resulting abscess may produce a diminution in the acuity of hearing. This, however, would be infection by contiguity and not due to so-called "focal infection."

Unfortunately the vast majority of cases of impaired hearing are classed as "catarrh" of the ear. There are no doubt many cases of varying degree of eustachian tube occlusion causing interference with proper middle ear function, namely tubal catarrh, but surely most of the serious impairments of hearing are due either to adhesive or other changes in the middle ear, following suppuration; or are a result of degeneration of the auditory nerve or end structure, the organ of Corti.

It cannot be too forcibly insisted that mere inspection of the ears is as a rule not sufficient for differentiating between middle ear and internal ear affections. For this purpose use of the tuning forks, Galton whistle, and sometimes even the monochord are needed, or at least desirable. In a word, the exact diagnosis is necessary in order to decide whether operative procedures are indicated, and also to determine the prognosis of the hearing.

Before proceeding to surgical measures, let us recall the character and histology of the nasal mucosa. This mucous membrane is thickest and most vascular over the turbinate bodies, especially the inferior; it is also very thick on the septum. It is thinner in the spaces between the turbinates and on the floor of the nasal fossae; and is very thin and pale in the accessory sinuses. In the respiratory portion of the nose the epithelium is the columnar ciliated type.

Differential Diagnosis. In middle ear affections such as chronic tubal catarrh or adhesive processes we have changes in the drum membrane such as loss of luster, thickening or retrac-

tion to a greater or less degree. The voice and tuning fork tests show some loss of hearing in the lowest octaves, the Weber is usually lateralized in the poorer ear; bone conduction, as shown by the Schwabach test, is lengthened when compared with the normal; and the Rinne is usually negative, that is, bone conduction is greater than air conduction. In this class of cases inflation of the ears by means of the Politzer bag or eustachian catheter will usually at once show improvement of hearing. If in this condition there is obstruction to nasal breathing due to deflected septum or hypertrophied turbinates, operative measures should be instituted. But especially in doing turbinectomy must caution be used to save all of the turbinal mucosa which can be retained so that the dire results of an atrophic rhinitis or rhinitis secca, may not ensue. This latter condition is characterized by large nasal cavities, by a metaplasia or replacement of the columnar ciliated epithelium with a flat squamous cell, together with a change in the character of the nasal secretions and crusting. Often a foul odor (ozena) develops, and the patient is blessed with a disgusting and highly intractable affliction. If an intumescent rhinitis is present and causing obstruction, a carefully performed linear cauterization may be of considerable aid.

If adenoids are present and especially if they lie in the fossae of Rosenmüller and cause pressure upon the opening of the tube, operation should be done to completely clean out the nasopharynx.

In a word, in this class of cases treatment of various kinds is desirable and indicated.

Wholly different, and yet a disease of the middle ear or sound conducting apparatus, is otosclerosis, more properly called spongification of the labyrinth. This in its typical form produces ankylosis of the foot plate of the stapes. Here we then have impairment of hearing for low tones and severe tinnitus aurium. The drum membrane is usually normal in appearance but at times shows a reddish glow in its posterior half. The tuning forks show that there is loss of perception for the lowest octaves, the bone conduction (Schwabach test) is lengthened, and the Rinne test is negative. Inflation of the ears does not improve hearing, nor does as a rule any other form of treatment.

The actual etiology of otosclerosis is not known, but it appears more often in females,

and usually first makes its presence known in the second decade of life. It tends to progression and the hearing becomes steadily worse.

All manner of manipulations besides catheterization have been used, such as electricity, pneumo-massage, injections of adrenalin, etc., but without avail. Indeed as a rule, the more the case is treated the worse it becomes. It is particularly in these cases that nasal operations such as septal resections, turbinectomy, etc., should be avoided, unless there is obstruction to breathing which requires relief. But let the patient thoroughly understand that the operation is done to relieve obstruction and not to help the hearing. I have seen several sad cases of otosclerosis in which complete turbinectomies were performed and a rhinitis sicca accompanied by crusting and some times foul odor resulted, in the mistaken idea that the ear affection was a "catarrh." Thus a most unfortunate complication was saddled on a person already possessed of one incurable malady.

In some instances the spongification involves not only the stapedial foot-plate, but the capsule of the labyrinth, producing degeneration of the organ of Corti, together with symptoms of internal ear involvement.

This brings us to the third general class of ear diseases, namely those of the auditory nerve or internal ear. Among the causes are certain drugs such as tobacco, alcohol, chromic acid, quinine and the salicylates. Of the acute diseases producing these changes are scarlatina, typhoid, mumps and measles; among the chronic ones are diabetes, arterio-sclerosis, nephritis and lues.

On examining these cases one may find a normal drum membrane or there may be signs of former middle ear disease such as previously mentioned. The functional testing shows in typical inner ear disease loss of hearing for the high tones, or in advanced cases, impaired hearing for both low and high sounds. Bone conduction (Schwabach test) is shortened to a marked degree, and the Rinne test is positive, that is, the air conduction is longer than bone conduction, but both factors are diminished as compared with the normal ear.

The prognosis of this class of cases depends on the etiology as given above. Some cases can be relieved to a certain extent by inhibiting the use of alcohol, tobacco, etc., if these are at fault; or by treating the lues, typhoid, etc., if present.

In many instances, however, medication is of no avail as regards restoration of hearing. In this class of impaired hearing nasal operations are to be avoided as much as in otosclerosis. To straighten a septum or remove a part of the turbinates may allow more air to traverse the nares, but can surely not affect favorably a process located in the inner ear or auditory nerve; and yet we daily see patients who have been thus operated upon or have had such procedure urged upon them to relieve the poor hearing.

CONCLUSIONS:

1. To make an accurate diagnosis of the aural condition present a thorough tuning fork examination usually is necessary. By this means it is possible to differentiate involvement of middle from that of the inner ear, or to determine disease in both portions.

2. Of the middle ear affections the chronic catarrhal process is amenable to intra-nasal treatment, but in the so-called otosclerosis, treatment, especially operative, is not only useless, but often injurious both as regards the ear and the nose.

3. Involvement of the inner ear as seen in the degeneration of the organ of Corti or the auditory nerve is a contra-indication to nasal operations or air inflations, except in that the latter may at times somewhat relieve the tinnitus.

4. In all nasal operations, particularly those upon the turbinate bodies, great care should be used to conserve the mucosa as much as possible, in order to avoid metaplasia of epithelium with consequent atrophic rhinitis.

104 S. Michigan Ave.

SARCOMA OF THE TESTICLE

With Special Reference to Early Diagnosis.
Report of Two Cases.

JOHN J. GILL, M. D., PH. G.

Clinical Assistant in Surgery, Northwestern University Medical School.

CHICAGO.

Sarcoma is the most frequent of malignant tumors which attack the testicle, and as an early diagnosis is seldom made I wish to report two typical cases.

Case 1. C. H., aged 24 years. Single. Venereal disease none. History of previous illness or accident is negative. Dec. 1, 1913.

Struck in right testicle while playing basket ball; he was stunned for a moment but felt no other inconvenience and finished the game. Three weeks later he noticed contrary to previous observation that the right testicle hung lower, was slightly larger and much heavier than the left one.

Dec. 20. Consulted his family physician, who diagnosed hydrocele, and prescribed local treatment.

Jan. 10, 1914. Consulted another physician, who made the same diagnosis, ordered local applications, rest and KI internally.

Jan. 10. He returned to his first doctor, who at this time changed his diagnosis to that of tuberculosis.

Jan. 20. He came to me, presenting the following conditions for diagnosis:

1. History as above outlined.
2. Heavy weight and increased size of right testicle, no pain or other subjective symptoms.
3. Right testicle about the size of his fist, surface smooth and even, shape oval, very firm but elastic to the touch.
4. Opaque to light, dull to percussion.
5. Epididymis normal. Spermatic cord slightly swollen but not tender.
6. Rectal examination negative, regional glands not enlarged.
7. Head, chest, abdomen negative, neck showed enlarged thyroid.
8. Von Pirquet and Wassermann tests negative.

I diagnosed "sarcoma" and demanded immediate castration, which was refused. Two other physicians were consulted, one thought the mass a "cyst," the other a "hematoma."

The patient returned to me January 24. I then removed the testicle and cord. Laboratory report confirmed "malignancy," "large round cell sarcoma." Recovery, uneventful; he is now a captain with the army in France.

Case 2. C. M. Aged 25 years. Single. Previous history negative as to illness, accident or venereal disease.

Jan. 4, 1915. He came to me with this history: One month ago, while alighting from train, he was struck in his left testicle by his suitcase, causing severe pain of short duration. Since then that testicle enlarged rapidly, no pain, only the lead-like weight was annoying; the heaviness out of all proportion to the size. The

outline was smooth, even, and regular. Consistency homogeneous, firm and elastic. Diagnosis, "sarcoma."

The tumor was removed. Laboratory reported "malignancy," "mixed cell sarcoma." Recovery uneventful. Patient in good health when last heard from.

Sarcoma must be recognized and removed promptly to prevent metastasis, with a life expectancy of only about three years. To aid in diagnosing the condition in its early stages the following observations are offered:

1. Trauma, slight but severe enough to be distinctly remembered.
2. Growth of the body of the testicle is continuous, rapid, painless, and not tender to pressure.
3. Consistency, firm, elastic, solid; surface smooth, even, regular; oval shape and impervious to light.
4. Weight—this is very characteristic; it is the weight and not the pain which compels him to seek advice; it is that heaviness which distinguishes it.
5. Fibroma grows slower. Gumma gives a history, laboratory or some other findings of syphilis. Hydrocele, fluid and transparency. Hematoma, limited growth with tendency to contract and demarcation between testicle and clot. Carcinoma, nodular outline and age factor. Tuberculosis early attacks the epididymis.

NOTES ON INDICATIONS IN KIDNEY SURGERY.*

G. KOLISCHER, M. D.,

Attending Surgeon to the Genito-Urinary and Radiotherapeutic Departments, Michael Reese Hospital,

CHICAGO.

In formulating the indication for repair of a floating kidney, extreme caution is advisable. One has to consider that in the majority of cases of this kind the pronounced mobility of a kidney is only one of the symptoms of the relaxation of the fibrous system supporting the inner organs. It is, therefore, apparent that the correction of only a single instance will not do away with other symptoms of general enteroptosis. Consequently nephropexy ought to be considered only after it has been ascertained that the most grave symp-

*Read before the Chicago Medical Society, April 20, 1918.

toms are due to the excessive mobility of the kidney, that means that these symptoms must promptly subside after the patient is put to rest and after the kidney is replaced. The indications for nephropexy are furthermore restricted by the experience that in a great number of instances non-operative procedures will succeed in keeping the kidney in place; as such have to be mentioned fattening up of the patient, retaining pads and resistance gymnastics. Only failure of these methods will justify an operative interference.

This reasoning is supported by the experience that a complete orthopedic success of the nephropexy is not always identical with a cure of the annoying symptoms. Temporary hydronephrosis due to an acute dilatation of the renal pelvis and calices may occur periodically accompanied by the distress known as Dittel's crisis, although the kidney was properly anchored and has remained so; it has to be assumed that in such instances the temporary paresis of the renal pelvis with its consequences is due to nervous influences and not to mechanical causes as kinking of the ureter brought about by dislocation of the kidney.

In cases in which the kidney was jolted out of its niche by a trauma, the operative results are almost universally satisfactory and, therefore, such a condition has to be considered as the strict basis for indicating nephropexy.

Concerning concretions in the kidney it may be safely stated that the discovery of a renal calculus forms *per se* the indication for removing it, unless the general condition of the patient forbids any surgical intervention. The profession gravitates more and more toward the general proposition, that everything abnormal ought to be corrected. This holds especially true if an organ is concerned, the function of which is vital to the proper maintenance of the equilibrium in the household of the human system. While it may be susceptible of discussion, whether in a given case infection and its sequelæ were the primary condition or whether the calculus is the cause of inflammation, the fact will always remain, that if once a concretion is formed, it will be a constant source of traumatism and irritation, which factors may assume a very dangerous degree if this calculus should be rough as to surface and easily movable. It also has to be considered that urinary concretions are prone to increase in size by additional precipitation of urinary salts, which instance may lead to considerable obstruction, if

the calculus be located in the pelvis or in a calix, and to pronounced compression and destruction of the secreting part of the kidney if the concretion has its seat inside of the parenchyma of the kidney.

One must not lay undue stress on the statement occasionally met with, that at times renal calculi are discovered incidentally only; because if there had been no symptoms, there certainly would not have been any incentive for taking an x-ray picture. The urgency of the indication will depend on the character of the objective and subjective symptoms. In case the renal attacks are very severe and occur at short intervals, if bodily movements regularly excite such attacks, an indication for prompt operation is furnished with the idea of preventing further traumatism to the kidney, the evidence of which is demonstrated by the appearance of blood in the urine, coming from the afflicted kidney. In the same way the presence of pus and formed renal elements will call for an early operation, because these signs indicate a progressive destruction of kidney substance. In this sense a large immovable stone may give latitude to the date of operation, while a small, but movable stone on account of this latter condition, will call for its removal at the earliest date possible. It may be added that the late progress in the technique of the kidney operations permits of greater liberality in forming our indications for surgical intervention in stone cases.

In most instances renal calculi may be removed by the opening of the renal pelvis only, which procedure avoids all damage to the secreting parenchyma. Even if for technical reasons the parenchyma of the kidney has to be incised in order to remove a stone of extraordinary formation and size, the postoperative hemorrhage, the bugbear of nephrotomy, will be eliminated by transplantation of fat over the incision made into the kidney.

The invasion of the kidney by pathogenic germs will become a matter of close surgical attention as soon as the inflammatory reaction of the renal parenchyma becomes apparent. The time of intervention and its extent may be susceptible of discussion, but the fact remains that only in the small minority of such cases a cure by natural forces will obtain. At that the spissification of the exudate and the final obliteration of the involved area by fibrous sclerosis and calcification will always mean the loss of renal pa-

renchyma, while a timely operation may have succeeded in keeping this destruction within narrow limits, not to mention the early evacuation of a purulent focus.

The time of operation after once the existence of suppuration in the kidney is diagnosed has to be determined according to the character of the case.

It seems going a bit too far as some observers would have it, that in every instance the surgeon should tide the patient over the acute attack and then operate during the cold period, after general and local immunization has had time to assert itself.

But there are cases of foudroyant infectious processes of the kidney which if not readily relieved by operation, will lead to death in a very short time. The renal involvement in such instances is, as a rule, due to the invasion of very virulent coli bacilli, which may also supersede a primary, but rather dormant, tuberculosis infection. The symptomatic syndrom in such cases is quite characteristic. The seizure comes suddenly and prostrates the patient rapidly; the suffering is exquisite. The rapid progress of a destructive process of the kidney is marked by a constant rise of temperature, by repeated chills and by the appearance of blood besides pus in the urine.

The constant rising of the temperature is due to the increase of toxics in the circulation; each chill marks the establishment of a new inflammatory focus, and the appearance of blood is significant of the process of destruction. The item hemorrhage deserves a little discussion. It will happen that after the initial stage of the attack the blood will disappear out of the urine, but that does not mean that the hemorrhage into the kidney has stopped. The fallacy of such an assumption may be very easily proven. If in such a case the observer places his hand on the kidney region, exerting slight pressure, the blood will reappear in the urine and cystoscopic observation will demonstrate the emanation of liquid blood out of the pertaining ureter, as a rule, preceded by a worm-shaped coagulum. The explanation of these phenomena is this. Constant and copious hemorrhage inside the kidney will overdistend the renal pelvis, the ureter not being spacious enough to carry off the blood as quickly as it is effused, and an occasional coagulation inside of

the ureter may add another mechanical obstacle. In this way the tension in the renal pelvis is increased to such an extent that its expelling power is annihilated, paresis of its walls setting in. The apparent cessation of the hemorrhage under such circumstances becomes another danger signal.

The findings after having exposed such a kidney are rather impressive; the whole perirenal tissue is edematous, the surface of the kidney is punctuated by innumerable subcapsular hemorrhages, the pelvis presents itself as a livid sac, the ureter is distended to the utmost.

While these rather stormy kidney infections discussed above are due to the activity of colon bacilli or staphylococci, the invasion of a kidney by streptococci produces an entirely different clinical picture. These streptococcus infections, however, are of such an importance as to render them worthy of some discussion.

Colon bacilli and staphylococci manifest their occupation of renal territory by the ample production of pus, and, if hemorrhage occurs at all, it is rather profuse.

The streptococcus infection of the kidney leads to hard infiltration of the renal parenchyma, and the production of pus is negligible, the hemorrhage of an occult character.

The presence of such an infection announces itself by the appearance of edemas in various parts of the bodily surface, appearing in one place, then disappearing there and establishing themselves in some other location; in the early stages such edemas will also occur in the muscles of the eye and in the background, leading to minor disturbances in the sight. The urine contains albumin, almost no pus cells, but early hyaline and granular casts appear; the effusion of blood into the renal parenchyma, though red blood-corpuscles may be very scant or entirely absent is revealed by the appearance of large round cells, stained yellow by the products of the breaking up of red cells.

The diagnosis of the streptococcus infection of the kidney is very important, because if no surgical aid is furnished, the patients invariably become blind in the future course and finally succumb. The oculists assert that the ocular changes in such cases may be differentiated with certainty up to the final period from the classic symptoms of albuminuric retinitis due to non-bacterial parenchymatous nephritis. Therefore, if fleeting

edemas occur, if the urine contains albumin, hyaline or granular casts and signs of occult hemorrhage, bacterial investigation of the kidneys with all the modern aids has to be undertaken forthwith. The establishing of the diagnosis of streptococcus nephritis calls for immediate surgical interference, nephrotomy or nephrectomy, according to the qualification of the findings.

Operation in cases not too far advanced almost invariably will lead at least to a symptomatic cure; failure to furnish surgical relief means condemning the patient to blindness and eventual death.

Although personally I am able to report only temporary successes with the Edebohls' operations, in cases of parenchymatous and interstitial nephritis, there are quite a few authors who claim to have achieved permanent results in some of their cases of this kind. There seems to be a theoretical possibility for qualifying the indications in such instances and to formulate the prognosis by midoperative observation.

The kidney is provided with certain safeguards to maintain an even intrarenal pressure, although the pressure in the general vascular system may be abnormally increased. If now an excessive sudden rise in the blood pressure occurs, there will be a danger that these safeguards may be overcome so that the intrarenal pressure will reach a degree apt to damage the secreting epithelia. The manifestation of such sudden vacillations may be regarded as forming an indication for operative interference in cases of nephritis.

Whether there exists an excessive intrarenal pressure can only be determined while the kidney is in situ, because any artificial dislocation of this organ will produce a secondary hyperemia due to the stretching or twisting of the pedicle. Therefore after having exposed part of the surface of the kidney in question, a little slit is made into the fibrous capsule, while the kidney is still in situ; if the parenchyma protrudes through this little incision then one is justified to assume a hypertension inside of the kidney and to expect some benefit from the decompression after Edebohls.

Metastatic suppurations in the fatty capsule of the kidney are quite often entirely overlooked or their symptoms are misinterpreted. This is regrettable because an early diagnosis not only will serve to save the patient a great deal of suffering,

but timely interference is also important on account of the extensive destruction that after a while will result and on account of the danger of general sepsis, always present in such cases. Suppurations in the fatty capsule may become established independently from suppurations in the kidney because the adipose capsule possesses arteries of its own able to import hematogenous infection. That accounts for the fact that adipose inflammation may be present, although the urine does not contain any products of infection. All these suppurations are accompanied by a rather high fever of an intermittent character; chills are not uncommon; pain in the kidney region is always present and very often the diuresis is considerably increased.

Special syndromes are dependent upon the localization of the infection and inflammation. In case the inflammatory exudate distends the fatty capsule at the posterior circumference of the kidney the pain and the sensitiveness is very pronounced in the flank. If inflammatory infiltration occurs around the lower pole, then on account of the peritoneal irritation, intestinal symptoms will appear in combination with exquisite sensitiveness around the lower pole.

Deep inspiration produces pain and paroxysms of coughing may be excited by the involvement of the diaphragmatic pleura in case the inflammation extends upward. Pressure around the lower pole of the kidney evokes reflector contraction of the abdominal muscles. If the abscess or the abscesses are located around the anterior surface of the kidney then the clinical picture may be obscured by vomiting due to compression of the ductus choledochus or the vertical part of the duodenum.

Any time that in presence of some known suppurative focus sudden pain in the kidney region is observed, combined with high fever, metastatic suppurations in the fatty capsule have to be thought of, especially if the diuresis is increased and if the otherwise normal urine contains pathogenic bacteria. That adipose inflammation may be present, although the urine does not contain any products of infection, is accounted for by the fact that pathogenic germs may be filtered through the kidney without exciting any inflammation in this organ, although producing inflammations in other structures into which they have been carried by the blood stream.

THE INTERPRETATION OF SYMPTOMS IN FUNCTIONAL NERVOUS DISORDERS.*

I. B. DIAMOND, M. D.
CHICAGO.

In certain cases of functional nervous disorders the symptoms complained of can be explained only on a psychic basis. The successful treatment in such cases therefore depends upon a correct interpretation of the symptoms and upon helping the patient to obtain a clear insight into his trouble. During the examination or analysis one finds that a good deal of the trouble is fear, which as pointed out by Patrick¹ is not always apparent. The removal of the fear is really what helps the patient to get well. The report of the following cases will make this clear:

A girl, aged 19, had complained of pains in the region of the heart and in left side of chest for six months. She believed she had consumption, was nervous and depressed and did not sleep well. Physically, she was the picture of health. On analysis the following facts came to light: She was in love with a young civil engineer. They always went out together and she expected to marry him some day. Ten months previously, during a telephone conversation, a quarrel had ensued. Giving him no chance to explain, she impulsively hung up the receiver. The reason for this was jealousy—she wanted to teach him a lesson and bring him to terms. The disappointment was great when she did not hear from him. She could not be consoled, brooded over it and realized it was all her fault and, as she remarked: "He was such a fine fellow, all my girl friends were jealous of me, and all on account of my pride I lost him." She then became nervous and lost interest in everything. She was sure, however, of having had no pains then nor during the next four months. About that time, six months ago, while out walking, she suddenly met him face to face. He stopped and, to her surprise, greeted her pleasantly as if nothing had happened between them. She became excited and enraged and passed him without giving him a chance to say another word. While recalling this scene, she became agitated. On questioning what happened afterwards she said, "I regretted my rash act at the moment and felt as if a knife was going through my heart." Here we have the interpretation of the pains she has had since. It was explained to her that her pains were really due to emotional shock and not to any disease of the lungs which she had feared. She saw the bearing of this at once and exclaimed, greatly relieved:

"Then there is really nothing serious the matter with me. I would never have believed that love could cause such suffering. I have read such things in books. I don't think I need any medicine."

The relation of nausea and vomiting to disgust is shown in the following case:

A middle aged married woman had been complaining for some time of "dizzy headaches," nausea and vomiting. She was under the care of several physicians with no relief in her condition. A surgeon had suspected gall stones. A careful gastric examination by someone else did not lead to a definite diagnosis while under his care in the hospital. Her family physician, who spoke to me about her case, had suspected a brain tumor. She was extremely nervous and depressed and showed, on examination, all the landmarks of hysteria. Eyegrounds were normal. She had considerable family trouble. Regretted having married a second time. Her grown-up stepdaughters made her life miserable and merely mentioning them would cause a flood of tears. The condition persisted for a long time and repeated questioning from time to time did not throw any light on the case; until one day on carefully going over her history again she said: "Why, Doctor, I am so disgusted with life, you have no idea how much trouble I have; it's up to my neck." In a flash I realized that her vomiting was a means of getting rid of her troubles. Her very words expressed her feelings. We often hear people say: "She cannot stomach it." When this was carefully explained to her, she exclaimed, greatly relieved: "I was so afraid I had cancer of the stomach." A fear she had nursed ever since her gastric examination. She heard the doctor say that at her age a malignant growth must not be overlooked. This frightened her. She finally adjusted herself to her domestic troubles as following this interview her recovery was rapid.

The following case is another example of psychic vomiting and disgust but the cause is different.

A young unmarried woman, bookkeeper, had been subject for about a year and a half to attacks of dizziness, nausea and vomiting. She thought her condition was due to overwork, but in spite of a four-weeks vacation she was no better. Now she was extremely worried and feared she could not hold her position as she was frequently absent from work on account of her trouble. When she first consulted me she was recovering from an unusually severe spell. The day she took sick she was out with her girl friends for supper and then went to hear a lecture. While in the lecture hall she became dizzy and extremely nauseated and had to go directly home. However, a chance question as to the nature of the lecture, which was overlooked at first and which happened to be on matters of sex, gave me a clue where to look for the cause of her trouble. Following several interviews the analysis revealed the patient was in the

*Read before the Northwest Branch, Chicago Medical Society, May 3, 1918.

1. Patrick, Hugh T.: The Factor of Fear in Nervous Cases. Jour. A. M. A., July 15, 1916.

habit of masturbating, which she had suppressed with difficulty. To fortify herself against the habit she became interested on all questions pertaining to sex, as she so tersely remarked, "to train myself like a soldier who has to fight in battle." Now a year and a half ago, before her trouble began, she was reading a book on the subject which so sickened her that she was unable to finish reading it. Since then these attacks would follow whenever she would hear or read anything pertaining to the subject. She was unconscious of this fact and always ascribed her attacks to something else. Here also the fear was not apparent at first. When she obtained a clear insight of the trouble, she said: "I am so relieved. I really feared I had some growth in my stomach and in my head." Now, one must not always be too optimistic in believing that one has eliminated the element of fear altogether, for with the slightest return of the symptoms, the patient becomes alarmed as before. It requires repeated argument on the part of the physician to combat these fears until they are entirely removed. Several months later the patient had another attack. This time she was very much alarmed. She insisted she had followed my instructions and tried to avoid everything which would excite the attack. However, after minute inquiry she recalled a flirtation scene witnessed unexpectedly between the stenographer and her manager which disgusted her. Her recovery following this interview was rapid.

Here is another case of psychic vomiting from a different cause.

A healthy young woman, mother of two children, youngest five years old, was brought to my office by her husband, who was in despair about her. She had been visiting one physician after another with no relief. She was nervous, had dizzy attacks with nausea and vomiting, palpitation of the heart and thought she had heart and stomach trouble. One physician had told her to become pregnant. This she felt was out of the question as she was too sick to go through another pregnancy; besides, she was not able to care for her home and children. Close questioning brought out the fact that during cohabitation the patient was always in great fear of becoming pregnant. So that between the fear on the one hand and the preventive method used on the other, she was never sexually gratified. Her nausea was due to a disgust she experienced from the condom, which her husband was in the habit of testing out in her presence. Her symptoms became quite clear to her after my explanation. Her fears with reference to her heart and stomach disappeared. She recovered, finally became pregnant, remained in good health and gave birth to a boy a year later.

The following case of psychic nausea is interesting.

A young married man complained for several weeks of nausea, forced himself to eat, but something kept him back. He was greatly distressed

and feared there was something wrong with his chest. Careful questioning brought out the following: Patient's wife had recently given birth to a child. He had had no sexual relations for many months. Several weeks ago he found himself in a situation where he became sexually excited. He became frightened and resisted on moral grounds. Soon after the above symptoms developed. As he recalled somewhat similar attacks some years ago, his fears subsided and he recovered within a short time.

A very interesting case of persistent vomiting is the following:

A girl, 26 years old, bookkeeper, had been vomiting more or less daily for eight months. She was under the care of several physicians. She was treated in a sanitarium for a time. An internist had her under observation in a hospital for four weeks, treating her with gastric lavage, which she continued at home, with very little improvement. Her attacks usually came on in the morning, but there were exceptions to this rule. When she had a bad day she vomited several times during the day and was confined to bed. After the attack she would become faint. Later she suffered from bulimia and was compelled to take some food in spite of vomiting every two or three hours. Never knowing when she would get an attack, she practically became an invalid. She was afraid to leave the house alone for fear of fainting. She could not travel in street cars, was extremely nervous and depressed and did not sleep well. She was afraid to be away from home longer than an hour or two, as she had to be somewhere where she could obtain food and reach home quickly for fear she might not retain the food. That was the condition she was in when I first saw her. The family was advised by her last physician to try to leave her alone, as the condition was hysterical. The analysis in this case was extremely difficult. As a child she suffered a sexual trauma, an older girl having seduced her to mutual masturbation. Later she continued the habit alone. At times her moral feelings reacted against the habit and the struggle would end in disgust and vomiting. She finally suppressed the habit. This explained her vomiting attacks she had some years ago and which led her to believe that she always had a weak stomach. Her present trouble, however, was due to a secret love affair she had with a married man. As she was a friend of the family, she tried her very best to forget him. So that between desire on the one hand and her guilty conscience on the other, she found herself in an "intolerable situation." (This term is used by Major Salmon in *Shell Shock*, which he defines as an attempt to escape from an intolerable situation in real life to one made tolerable by a neurosis.) Her vomiting was really a means of getting rid of her troubles, which she did not recognize. These facts, of course, on account of their nature, were not so easily obtained and were

brought out following the analysis of one of her dreams. She dreamed that she was crossing the street with a little girl holding her hand. She found herself stepping into a lot of broken glass. Afraid she would cut herself, she tried to retrace her steps and awoke. Now, what led to her confession was the question as to what the little girl suggested to her mind, since she did not recognize the girl in the dream. She answered: "Innocence." In short, the dream was a wish on her part to be again an innocent girl. The girl in the dream was a symbol representing innocence. In explaining this to her she began to cry and her story came out by degrees. Now, the treatment which lasted several months, was along reeducational lines. This patient also regarded herself as a very sick person with an incurable stomach disease and a weak heart on account of her fainting spells and feared she would die suddenly from heart disease. She improved from the first and completely recovered when the last vestige of fear regarding her heart was removed.

The factor of fear is well brought out in the following cases:

A 14-year-old school girl was subject to sudden attacks of shooting pains in her eyes and a feeling as if her eyes were popping out. She was under treatment by several physicians with no relief. Aside from a slight refractive error, which was corrected by an eye specialist, who sent her to me, he found nothing wrong with her eyes. She experienced these attacks once or twice a week and had them for six months. During the attack, one of which I witnessed, she would go to bed, darken the room and alarm her family by fearfully crying about the pains in her eyes, saying that they were pushing out. The analysis showed that she became shocked and frightened by her school mate, who insisted on showing her her artificial eye, which she took out of the socket, and relating to her in detail how she had lost her eye. The patient was frequently annoyed by her eyelashes getting into her eyes and becoming inflamed from rubbing. Her sympathetic schoolmate would frighten her and warn her that she would lose her eye the same way as she did if she were not careful. She then began to imagine there was something wrong with her eyes. She always was nervous and afraid to be alone in the dark. At the age of ten she suffered an attack of chorea with weakness of right arm, as a result of which she had to give up her piano lessons. This worried her, she became jealous of her younger sister, who got ahead of her in music. She wanted sympathy. All this contributed to the development of her neurosis. She recovered after two months' treatment. The method employed was to convince her that her trouble was simply fear. During one of her attacks I had her out of bed, looking at the sunlight, her symptoms all forgotten, and out of doors in a short time. But as her attacks came back, short simple talks on fear in

the form of practical lessons were resorted to. What impressed her more than anything else was an illustration of the resemblance of a photograph camera to the eye and how fear like a photograph may become impressed on the mind. She is now attending high school and happy.

A 15-year-old high school girl had in the course of the past three years, at irregular intervals, suffered attacks of nervous spells. She had a feeling as if she was going to die, choking sensation, pains in chest, hands and feet. She was very nervous and unable to attend school regularly. She imagined there was something in her throat: feared to be alone and would not go to sleep without her mother. Three years ago she was operated on for removal of tonsils. She became extremely frightened in the operating room and struggled greatly under the anesthetic. She had been under treatment, but did not feel any better. Her condition became worse five weeks ago, following the death of her younger sister. Her trouble turned out to be simply fear of another operation, as her tonsils were not successfully removed. She was still subject to attacks of tonsillitis. This preyed on her mind, although she was not aware of it. Her spells were really reminiscences of her experience in the operating room. She has kept well for the past two years and is employed as a stenographer.

A robust young man complained of constant pains under his left shoulder blade for over ten months. In spite of treatment, his pains did not disappear. What really was the matter with him was fear of consumption. He became frightened when he learned that his roommate, who died, had had the disease. His deceased friend always complained of pain in the back. When he became convinced of this fact he soon recovered.

Hysterical patients sometimes come with peculiar symptoms which are difficult to interpret.

A few years ago a married man, 30 years old, came to me complaining of nervousness, insomnia, distressing dreams with heavy feeling over preordium on awakening. A year ago he had several convulsive attacks (hysterical) which came on after a bitter quarrel with a friend about money matters. Things had not gone right with him of late. He groaned and talked in his sleep and made peculiar side to side movements with his head. He was aware of the act but felt helpless until his wife, who always became alarmed, woke him. Now he feared that there was something wrong with his head on account of these movements. The analysis, which took time, revealed that the patient was trying to hide his financial and other troubles from his wife. His marriage was not a happy one. He had married under compulsion. He still dreamed of his first love. He became alarmed for fear his wife might discover his secrets. She always told him he talked in his sleep. His head movements were an unconscious act and a means

of denying that there was anything wrong with him. This case, like so many others of the same type, illustrates the fact that this particular class of patients is unable to adjust itself at once without help when placed in a difficult situation. The combination of his financial troubles and the pregnancy of his wife made him unable to meet the situation. He occupied himself with regrets and dreaming of his happy days of youth. Having removed his fears and having pointed out what is required of him as a man, his symptoms soon disappeared.

A married woman, over 60, complained for six months of noises in her ears and pains in her head. She consulted several ear specialists. They had told her that there was nothing the matter with her ears. She denied that she had any troubles or worries. The fact that she did not sleep well and had distressing dreams indicated she was troubled over something. Her dreams frightened her and she was reluctant to speak of them. One which greatly distressed her was about her husband. She dreamed he had died. As she was a religious and superstitious person, she was greatly worried over it. She assured me she was happy and that her husband treated her well. However, repeated questioning brought out the fact that she could not bear the conduct of her stepdaughter, who ran things in the house to suit herself. She regretted her second marriage. Her stepdaughter was loud of voice. She heard her all over the house and always complaining. Her voice rang in her ears all day long; hence, the pains in her head and the noises in her ears. Her husband usually sided with the daughter for the sake of peace. Her dream was an innocent wish to get out of an intolerable situation. She was greatly relieved to learn there was nothing wrong with her head. With the aid of her own married daughter, to whom I explained the situation, the patient adjusted herself to her domestic troubles. When last heard from she complained very little.

Sudden nervous attacks in previously healthy persons are at times hard to explain, if the cause is not carefully sought for.

A few months ago I was called to see a robust married woman, 38 years old, who complained for the last several days with cramp-like pains in her legs, especially the left one. The pains "extended up to the left side to the heart." A feeling of distress in epigastrium, palpitation of the heart, a fainting feeling as if about to die. A local physician was hurriedly called in at first who relieved her by hypodermic injections of morphin. She did not feel much better. She was extremely irritable and was subject to hot flushes (vasomotor disturbances). She greatly worried over her condition and feared she had heart trouble. Her father had died of heart disease. She had a similar attack six months ago and was sick for four weeks in bed before she recovered. Now, minute questionings did not disclose anything to

account for the attack. She had nothing to worry about and nothing unusual happened to upset her. The night before she took sick she was well and happy and enjoyed a pleasant evening. But something did happen during the night which was at first entirely overlooked. The cause was a sexual one. It requires considerable tact to obtain information in such matters. The patient was not often aroused sexually. This time, however, she suffered greatly when the sexual act was interrupted. Her husband practices coitus interruptus as a means of prevention. The cramp-like pains in legs and the other symptoms followed. Her previous attack was due to the same cause. Her husband had suspected something of that nature and recalled a similar illness ten years ago. She was then under treatment for a long time for nervousness and stomach trouble with very little relief. Her symptoms then suddenly disappeared following normal sexual life. Her fears regarding her heart soon disappeared when she learned the cause of her trouble. At the time of this writing she is well and has again become pregnant.

The cause of incontinence of urine in children is not always clear. The following two cases are therefore of interest.

A mother brought to me her eight-year-old boy for relief of incontinence. He had no control of the bladder. He came home "soaking wet." He was bright and good at school. The mother recently discovered that he was a truant and was always found in the company of an older boy of bad reputation. After persistent questioning he confessed that his companion practiced fellatio on him, which ended in urination. A few simple talks to the boy and a change in his environment soon restored him to normal.

A bright, healthy nine-year-old boy came to me with his father for a similar complaint. He was being punished for it, but this did not help. The father ascribed the trouble to an injury of the head the boy had sustained when two years old. He had a damage suit on hand and wished me to testify in court. Mentally, the boy was above the average. He was in fourth grade. The trouble, however, did not appear until he was seven. Recalling the first case, I closely questioned him alone until he confessed that a man through gifts had induced him to submit to masturbation for some time. The father collapsed when I explained the trouble to him. Here, also, a practical talk to the boy and appealing to his better judgment helped more than all the punishment he was getting.

CONCLUSION.

1. These cases illustrate again the importance of the psychic factor in disease.
2. The necessity of excluding this factor in every case where an organic disease is suspected.
3. These cases can only be treated along re-educational lines.

THE PSYCHIATRY OF DEMENTIA PRAECOX*

H. CAMPBELL STEVENS, M. D.
CHICAGO

Dementia praecox is a form of insanity usually affecting adolescents and characterized by intellectual deterioration, delusions, hallucinations and peculiar motor adjustments known collectively as katatonia. The manifestations of this disease are so diverse that three somewhat different clinical forms have been distinguished. There is some reason to believe that several closely related disease entities may be included in the dementia praecox group. Future investigation may lead to the differentiation of these clinical types on the basis of different etiologic factors, just as enteric fever has been subdivided into the infections caused by *B. typhosus*, *B. paratyphosus A* and *B. paratyphosus B*. At the present time, however, one is justified in holding to the traditional name, "Dementia Praecox," as a term to cover the three well known groups, viz., the hebephrenic, characterized mainly by mental dullness; the paranoid, characterized chiefly by delusions of persecutions, and the katatonic, the chief sign of which is negativism and muscular rigidity.

The etiology of dementia praecox is still obscure. Indeed, two radically different conceptions with regard to the causal factors are held by competent psychiatrists. These two conceptions may be designated as psychogenic and organic. According to the psychogenic view, the dementia praecox behavior is the result of subconscious mental mechanisms which arise as a consequence of psychic repression. These repressions arise primarily because of conflicts between the instinctive feelings and activities of the patient and the ethical code of society. The underlying ground from which spring these feelings and activities is the sexual nature of human beings. The natural man comes into conflict with the rigid system of society. All normal persons, because of their intellectual resources, are able to adjust their instinctive life to the requirements of social intercourse. Normally this adjustment takes place during the period of adolescence, a time when the sexual organs of the body acquire maturity. The function of intelligence is to bring about an adjustment. Certain individuals

however, because of an inherent intellectual deficiency, are unable to make the adjustment. Such persons do, however, effect an adjustment, which, in comparison to normal, is called pathological. One of these pathological reactions by which such persons effect a sort of adjustment is by a process of exclusion by which the situations which cause disturbance are shut out. These personalities refuse to cooperate with their fellows: they sit apart from the family, are brooding, unsocial and morose. This isolation develops until the typical "shut-in" personality, with its train of delusions and hallucinations, becomes firmly established. The extreme limit of this type of reaction is the mutism of the katatonic patient. The other manifestations of dementia praecox are interpreted by psychogenic psychiatrists in a similar manner, which space does not permit our discussing at this time.

The organic conception of dementia praecox holds that the symptoms of this disease are the result of organic pathological changes in the body. While many such changes can be demonstrated, the mechanism by which the disease is evolved is still undetermined. These pathological changes occur in many different organs, and while no single coherent view has been proposed which incorporates all the facts in a definite conception, the organic findings are of such a nature that it seems impossible to interpret them from the point of view of a purely mental trouble. What, now, are these demonstrated organic pathological changes? First of all, there are morphological and chemical changes in the nerve cells of the brain which were first demonstrated by Alzheimer and afterwards confirmed by Nissl and others. These changes are of three sorts: 1. a fading away of the nerve cell, called *Zell-Schwund*; 2. disappearance of the Nissl substance or tigroid bodies, called *chromatolysis*; 3. a grouping of glia cells about the diseased nerve cell, called *satellitosis*. Chemical studies of the brains of dementia praecox subjects have shown, as in the works of Waldemar Koch, a constant and peculiar change in the organic sulphur compounds. Southard states that he finds a proliferation of glia cells in 85 per cent. of the dementia praecox brains examined by him. We may next cite certain clinical neurological symptoms, some of which are usually present in this disease. The intra-spinal pressure in the

*Read, in part, before the Chicago Medical Society, Dec. 5, 1917.

large percentage of these patients is increased by from one-half to twice the normal amount. Assuming the normal pressure to be 90-100 mm. of water, the intra-spinal pressure of dementia praecox patients is from 150-250 mm. of water. In every spinal fluid examined by us there was an increased amount of a protein substance precipitated by a saturated solution of ammonium sulphate. Presumably this protein was not a globulin, since these fluids gave a negative gold chloride reaction. Chemically this protein is probably a proteose. The instillation of a few drops of adrenalin hydrochloride 1/1000 into the conjunctival sac causes within a few minutes, in a normal subject, a widening of the pupil. The cause of this mydriasis is a stimulation of the dilator fibres of the pupil. In dementia praecox, in a large per cent. of the cases, instillation of adrenalin into the conjunctival sac causes a narrowing of the pupil. This paradoxical reaction of the pupil to adrenalin has considerable diagnostic value in distinguishing between certain cases of manic-depressive insanity and dementia praecox. The ophthalmoscopic examination of the fundus frequently shows tortuous blood-vessels, obliteration of the physiological cup and other signs of increased intra-cranial pressure. These changes, as well as the pupillary reactions, were studied by Georges Blin. There is a third group of pathological changes which I will call the intoxication group. Possibly the most important fact in this department is the leucocytosis of from 8 to 12 thousand cells which is present in nearly all cases of dementia praecox. While some of the changes above mentioned might be interpreted as due to vaso-motor changes and therefore under psychic control, no one, I believe, would have the temerity to assert that a leucocytosis is caused by a subconscious mental mechanism. Circulation changes are one of the most striking clinical features in the dementia praecox picture. These manifest themselves in an abnormally low blood pressure and also in cyanosis of the hands, with a peculiar mottled effect of other parts of the skin. The various pathological changes may be summarized as follows:

Morphological changes in the brain:

1. Zell-Schwund.
2. Chromatolysis.
3. Satellitosis.

4. Gliosis.

5. Organic Sulphur Compounds.

Clinical neurological changes:

1. Spinal fluid pressure increased.
2. Proteose in spinal fluid.
3. Pressure Symptoms in optic disc.
4. Adrenalin miosis.

Intoxication symptoms:

1. Leucocytosis 8-12 thousand.
2. Low blood pressure.
3. Cyanosis.

This summary of the organic pathological changes in dementia praecox mentions only well attested facts by well recognized scientific methods. I have purposely omitted any reference to the Abderhalden reaction for the reason that serious and seemingly final objections to its specificity have been brought by Van Styke and other equally competent chemists. It should be noted however, that if any validity is to be conceded to the Abderhalden reaction is psychiatry, the weight of this evidence is all in favor of the organic conception of dementia praecox. I have adduced this evidence to decide, if possible, between the two alternative conceptions of dementia praecox which were outlined above. Does a purely psychogenic disorder cause sclerosis of the brain, leucocytosis, and increased intra-spinal pressure? For myself, it is impossible to conceive how such results could be brought about by a purely mental state. Dementia praecox, therefore, is an organic disease of the body which manifests itself in a modified mentality and behavior because of chronic pathological changes in the cortex of the brain. While it is still too early to attempt to explain the pathological mechanism by which these diverse changes are produced, one may be permitted to suggest that the leucocytosis and low blood pressure point to a low grade inflammatory reaction. The stimulus to this reaction may be conceived to be a toxic substance, the seat of production of which is at present unknown. The changes in the central nervous system, one would suppose, are the results of a chronic intoxication. The nature of this hypothetical substance is as yet undetermined. But it is natural to conceive of it as one of the split products of protein metabolism. Some of these decomposition products of the protein molecule are known to be highly toxic.

The diagnosis of dementia praecox is made

(Continued on Adv. page 26)

ILLINOIS MEDICAL JOURNAL

Published monthly by The Illinois State Medical Society under the direction of the Publication Committee of the Council.

GENERAL OFFICERS, 1918-19

PRESIDENT.....	E. W. FIEGENBAUM, Edwardsville
PRESIDENT-ELECT.....	J. W. VANDERSLICE, Chicago
FIRST VICE-PRESIDENT.....	H. C. BLANKMEYER, Springfield
SECOND VICE-PRESIDENT.....	CLARA SEIPPEL, Chicago
TREASURER.....	A. J. MARKLEY, Belvidere
SECRETARY.....	W. H. GILMORE, Mt. Vernon
(Ex-officio Clerk of the Council)	

THE COUNCIL

First District		Alternate
Councilor		
E. Windmueller, Woodstock	C. E. Crawford, Rockford	
Second District		
Edwin S. Gillespie, Wenona	J. H. Edgecomb, Ottawa	
Third District		
Clyde D. Pence, Chicago	S. J. McNeill, Chicago	
Fourth District		
T. W. Gillespie, Peoria	Coleman J. Eads, Oquawka	
Fifth District		
Charles S. Nelson, Springfield	F. C. Gale, Pekin	
Sixth District		
Henry P. Beirne, Quincy	L. O. Frech, White Hall	
Seventh District		
Chas. F. Burkhardt, Effingham	W. W. Murfin, Patoka	
Eighth District		
Cyrus E. Price, Robinson	H. N. Rafferty, Robinson	
Ninth District		
Charles W. Lillie, E. St. Louis	W. F. Grinstead, Cairo	
		Second Assistant Secretary

Clyde D. Pence, *Chairman*, 3338 Ogden Avenue

Send original articles and all communications relating to advertisements and mailing list to Dr. Clyde D. Pence, Editor, 3338 Ogden Avenue.

Membership correspondence to Dr. W. H. Gilmore, Mt. Vernon, Ill.

Society proceedings and news items to Dr. Henry G. Ohls, *Managing Editor*, 927 Lawrence Avenue, Chicago.

Contributors will submit all copy for publication typewritten on standard size paper and double spaced. Copy not complying with this rule will be returned, if convenient.

MEDICO-LEGAL COMMITTEE

WILLIAM O. KROHN.....	Chicago
E. E. EDMONSON, <i>Secretary</i>	Mt. Vernon
D. R. MACMARTIN, <i>Chairman</i>	Chicago
F. C. FISHER.....	Bloomington
C. B. KING.....	Chicago
GEORGE STACY.....	Jacksonville

GENERAL COUNSEL

ROBERT J. FOLONIE.....	39 S. La Salle Street, Chicago
------------------------	--------------------------------

State society will pay no bills for legal services except those contracted by the Committee. Notify the Chairman at once. Do not employ attorneys.

DECEMBER, 1918

Editorial

PEACE ON EARTH

The Journal wishes all of its readers A Merry Christmas and A Happy and Prosperous New Year.

INFLUENZA

A month ago we thought the epidemic of influenza was nearly at an end as an epidemic, but predicted there would be much of it throughout the winter. In many localities it is still maintaining the virulence of an epidemic, and in some places is still raging in a serious manner. This would indicate that we will have much of it all winter.

No more interesting is the disease than the literature it engenders and the many methods advocated for its prevention and cure. The fact that a well informed medical man will make a clear positive statement regarding the disease and immediately another well informed medical man disputes the truth of such a statement and takes an exactly opposite view, indicates that really there is little known about it.

It would almost appear that there is a lack of judgment displayed in the management of the epidemic which will not fail to embarrass the profession. The newspapers inform us that in at least one city of the middle west the health department is compelling all people to wear masks when on the street. We do not give this much credence, but, no doubt, there was talk of enforcing such a measure.

Turning from such fallacious reading to an abstract from a thoroughly reliable author, a man of high standing and a clinician of repute, we quote: "In view of the universal prevalence of the infection, quarantine was necessarily useless. The wearing of face masks gave no more protection than the excessive consumption of whiskey indulged in by some, or the camphor bags worn by children. Nurses who used face masks were notoriously victims."

There seems to be just as much diversity of opinion concerning the use of vaccines and sera either for prophylaxis or cure—one authority claiming that in a series of several hundred cases a certain vaccine has not failed to protect and another clinician stating that they are absolutely worthless. When treatment is discussed many drugs and many methods are advised, notwithstanding the fact that the therapeutic effect of one drug advised has an exactly opposite effect to another just as warmly advocated. Every physician having had experience should have an opinion, and free discussion of any topic is always proper, but in such discussions, theories and

unsupported opinions should be widely separated from facts—no unproved opinion should be stated as fact.

The reading of the influenza literature which has appeared until now, thoroughly convinces one that comparatively little is certainly known about it. Many statements now widely published will be subjects of ridicule shortly. Christian Scientists might enjoy using in argument some of the exaggerated claims and much of the questionable medical literature of this subject. The wearing of face masks in hospitals when done intelligently is probably advantageous, but really the recommendation of a face mask for a pedestrian or a charwoman is about equal in intelligence to that of advising a manipulation of the spine.

FREE TREATMENT FOR VENEREAL CASES

During the past two years the JOURNAL has been opposed to the methods promulgated by the Health Department of Illinois for the control of the venereal disease situation. We believe this enforced reporting will do away with all beneficial results which have been or may be obtained from educational propaganda, which is, we believe, the only way reforms can be brought about.

While not believing any good would come from reporting venereal disease, we did not see the ultimate aim of the Department. Under Public Health heading in this issue will be seen the further policy of the Department in giving free treatment to venereal patients, and the sum of money the Department will receive for giving this free treatment to such cases. The sum allowed by the federal government to Illinois was \$61,307.51. After the first year the state must appropriate an equal amount, making a total of \$122,615.02. Fifty per cent of the federal appropriation is to be used in giving free treatment to venereal patients. It is not stated how the money to be appropriated by the state must be expended, but we take it that fifty per cent of this also will be expended in free treatment of such cases. This amount of money is pretty good for a starter.

Regardless of the amount of public money expended for such purpose, it is the principle underlying to which we object. It is another move which will pauperize the patient and take legitimate business from the doctor. Why should either

the federal or state government treat free or for pay any venereal patient who is able to pay a physician for such treatment; and who ever heard of a free state institution refusing to treat a patient because he was able to pay? If there is any class of patient not deserving of free treatment, it is the venereal patient, and still the Department virtually says, go ahead, contract venereal disease and we will treat you gratis.

The real principle involved is state medicine, and the Department is working steadily in this direction. It is now trying to gain foothold under the cover of the federal government's aid. Such paternalistic measures wherever tried have pauperized a large per cent of the population. It is the German method with a thin veneering. Does the profession want more free dispensaries? Should the state Department institute free dispensaries for the treatment of venereal disease?

TRIBUTE TO DR. GRINSTEAD

The *Cairo Herald* in a recent issue in its editorial comment paid a nice tribute to Dr. W. F. Grinstead of Cairo, when it stated: "Dr. Grinstead is one of the best citizens that Cairo has had, and he is as loyal to this city as he is to his Government. * * * He has done more than his 'bit' and his friends will hasten to congratulate him on his work well done for Uncle Sam."

The District Exemption Board, of which Dr. Grinstead was chairman, acted as an appeal board for twenty-two counties. When one considers the distances one must travel from Cairo to include twenty-two counties of southern Illinois and the number of board meetings necessary during the war period, he must say that "Dr. Grinstead has done more than his 'bit.'"

PROGRAM FOR EYE, EAR, NOSE AND THROAT SECTION

The program for the Eye, Ear, Nose and Throat Section, of the Illinois State Medical Society, which meets at Peoria, Ill., May 20, 21 and 22, 1919, is now being arranged.

We wish to extend an invitation to all of the physicians of the state who are members of the Illinois State Medical Society, and who are mak-

ing a specialty of the eye, ear, nose or throat, to take part in the meeting.

You are urgently requested to be present and take part in this great meeting, which has proven an inspiration to all and amply repaid those who have made the effort to attend heretofore.

The society extends to you an earnest invitation to attend and present a paper on some subject pertaining to the eye, ear, nose or throat, or open the discussion on the paper of some other essayist, or join in the general discussion as you prefer. The presentation of any new instruments or clinical cases is solicited.

A splendid banquet will be given in the evening and any member who will kindly consent to take part in the after-dinner speaking or entertainment is requested to notify the officers.

Kindly notify the secretary or chairman as soon as possible if you will take part in any of the above features of the meeting.

DR. FRANK ALLPORT, Secretary,
7 West Madison St.,
Chicago Ill.

DR. WESLEY HAMILTON PECK,
Chairman,
31 North State St. Chicago, Ill.

Correspondence

SCRAP PLATINUM

1. Cancellation of Appeal for the Collection of Scrap Platinum.

2. The Platinum Section and the Section of Medical Industry, War Industries Board, desire to express appreciation of the hearty response made by physicians, dentists and others when the call for scrap platinum was made.

3. As the Governmental demand for platinum in the making of explosives, etc., has been tremendously decreased by the curtailed war program, it is requested that no further scrap platinum be tendered to the Government through the channels indicated in our communication of September 17, 1918.

CHARLES H. CONNER,
Chief, Platinum Section.

LIEUT.-COL. F. F. SIMPSON,
M. C., U. S. A., Chief of Section
of Medical Industry.

Te Deum Laudamus

With the armistice concluded on Monday last, the horror which settled on civilization on August 4th, 1914, has been uplifted. Once more we have emerged victors from a great war, and it is not surprising if we allow ourselves to rejoice that in our age and generation we have proved not unworthy of the fathers that begat us. Our sailors have shown themselves the peers of Nelson's men; our soldiers in valor and endurance have more than upheld the finest traditions of the Army; our women by their heroic industry in unaccustomed callings have established new claims on our respect and admiration.

The Medical Officer (London)

16 November, 1918

Amen

So say we all of us as we remember that Pershing and our boys also did their duty. There is glory enough for all!

Public Health

ILLINOIS A REGISTRATION STATE

As a result of investigations carried out by the United States Bureau of the Census during September and October, Illinois is now recognized as a registration state for deaths. This recognition removes the stigma of being one of the very few of the larger States of the Union whose mortuary figures were not acceptable to the Federal Government.

BIOLOGIC AND RESEARCH LABORATORY

Plans have been completed for the establishment of a biological and research laboratory in connection with the State Department of Public Health and a new division has been created for that purpose. The new division is under the supervision of Martin Dupray, who has been serving as chief of the Division of Diagnostic Laboratories during the absence of Dr. George F. Sorgatz, who is in France on military service.

The new division will begin at once the production of lipo-pneumococcus vaccine and lipo-typhoid-paratyphoid vaccine and the activities of the division will be gradually extended to include other biologic products, including antimenigitis vaccine and toxin-antitoxin mixture for active immunization against diphtheria.

It is believed that the production of typhoid-paratyphoid vaccine for state uses, particularly in the larger institutions, can be made a matter of

important saving and economy since it is estimated that 30,000 treatments of three doses each, may be furnished in bulk for about \$600.00 or two cents for each treatment.

The Biologic and Research Laboratories will occupy quarters with the diagnostic laboratories so that the facilities and services of employees may be readily interchanged as conditions demand.

STATE AND COUNTY COLLABORATING HEALTH SERVICE

The establishment of the so-called "state and county collaborating health service," which has been in contemplation since the creation of the State Department of Public Health is expected to bring about a much closer contact between the department and the medical profession in all parts of the state.

Under this plan each county medical society has been asked to designate one or more physicians who shall be known as "collaborating health officers" of the State Department of Health.

Through these special county representatives the department expects: (a) To keep the local profession advised of new and proposed sanitary legislation, rules, regulations or orders affecting the practice of medicine, and through exchange of views on these subjects to bring about a better understanding and a closer co-operation between the practicing profession and the constituted health authorities, to the end that essential regulations may be made more practicable and more universally applied; (b) To keep the local profession advised of new and approved procedure in preventive medicine and sanitation; (c) To keep the State Department of Health better informed on local health conditions and needs; (d) To assist local medical organizations and more adequate appropriations to secure more efficient local health organizations for local health needs; (e) To have dependable, competent medical men on whom the State Health Department may call for diagnostic or other medical service in times of emergency, especially in epidemics, and for the fulfilment of important assignments when it is impracticable to have a member of the regular staff of this department on the case promptly.

Provision is made for compensation to be allowed by the state when service is rendered under specific authorization. It is not intended that this new service shall in any way supersede or interfere with local health authorities, but rather that it shall be supplementary and helpful to both state and local officials.

From time to time the county collaborating health officers will be called together for conferences on new and approved procedures in preventive medicine. Among the subjects for early meetings are the following: (a) Influenza, its cause, prevention, control and treatment. Vaccines, etc. (b) Pneumonia, recent advances in diagnosis, control, pre-

vention and treatment, efficiency of vaccine, prophylaxis and serum treatment. Laboratory diagnosis. (c) Diphtheria, detection of susceptibles through the employment of the Schick Test and the permanent (?) immunization of susceptibles through the use of toxin-antitoxin. (d) Poliomyelitis, diagnosis, control and after-treatment.

For the leading discussions, necessary clinics and demonstrations the Department will endeavor to secure America's leading authorities on these subjects.

It is expected that the county collaborators attending these conferences will, on returning to their respective communities, afford the local profession, through the county organization, the benefit of their observations thus disseminating important information in the best possible way in the shortest possible time.

The organization of this collaborating service was hastened by the acute and peculiar demands for co-operation in connection with the present influenza epidemic.

FEDERAL COOPERATION IN VENEREAL DISEASE WORK

The Division of Social Hygiene for the State Department of Public Health, created to meet wartime conditions and for the protection of the military service, has entered into active cooperation with the Federal Government whereby the division will participate in an appropriation of one million dollars voted for the purpose of the suppression of venereal disease by the 65th Congress. The sum of \$61,307.51 was allotted to the State of Illinois from this fund and became available for use on November first. The continuation of this federal grant after the first year is dependent upon a state appropriation of a similar amount. The Division of Social Hygiene has been organized with Dr. G. G. Taylor as division chief. Provision has been made for the employment of an assistant chief of the division, a supervisor and assistant supervisor of clinics and hospital service, a supervisor and assistant supervisor of educational service; a supervisor of industrial service; a supervisor of social service; field investigators, and stenographic and clerical help.

Fifty per cent of the federal fund will be expended by the Division of Social Hygiene in the purchase of drugs for free administration to diseased persons and in assisting in the establishment and operation of dispensaries for the free treatment of venereal disease patients. Twenty per cent of the allotment will be expended for educational purposes including the distribution of proper literature, lectures and moving picture exhibits and another 20 per cent will be used for repressive measures, including the prosecution of violators of the rules and regulations of the State Department of Public Health, in investigations and in social

service work. The remaining 10 per cent will be used for the expenses of administration.

The Division of Social Hygiene was created after the general organization of the Department of Public Health under the Civil Administrative Code and consequently had no definite appropriations. In spite of this very real handicap the division had done excellent work prior to the provision of federal aid. This work was largely centered in the sanitary zones about military camps and cantonments. It is stated that upward of one thousand prostitutes have been examined and those in infectious stage placed under treatment at the expense of the counties in which they were found.

The activity of the division has not only reported a large measure of protection to the military forces, but has also done much toward the improvement of moral conditions of a large number of the most important municipalities in the State.

INFLUENZA AND PNEUMONIA RULES

The Rules and Regulations for the Control of Influenza, promulgated by the State Department of Public Health and effective September 28, have been revised and amended, the revised rules becoming effective October 2. The principal addition to the original rules is that which provides that it "shall be the duty of every physician attending a case of influenza, to see that the patient and attendant are properly isolated in accordance with these rules, to advise the patient, the members of the family and household and the attendant as to the nature of the disease, the means whereby infection may be avoided, and the provisions of these rules."

On account of the wide prevalence of pneumonia in connection with the influenza epidemic, rules and regulations for the control of this disease were issued by the Department of Public Health becoming effective on October 3. Under these rules, pneumonia is declared to be a contagious and infectious disease, dangerous to the public health and every physician, nurse or other attendant, druggist, principal director, officer of any hospital, school, jail, or similar institution, parent, household or any other person is required to report any known or suspected case of pneumonia to the local health authorities. The original report may be made by telephone, but must be followed by a written report within 12 hours.

The report must state the name, address, age and occupation of the diseased person; the name and address of his employee, the date of onset of the disease, the school attended, if any, the precautions taken to prevent the spread of infection and the name and address of the person making the report.

The rules further require that the patient shall be isolated in a large, well ventilated room until convalescence is fully established and that no other

person save necessary medical and nursing attendants shall enter the sick room. The attendant is required to wear a face mask.

All discharges from the respiratory tract must be received in cloths which must be immediately burned or disinfected. All articles used by the patient or attendants must be disinfected before leaving the sick room and the floors, furniture and woodwork must be wiped up daily with a disinfecting solution.

When these provisions are properly carried out the uninfected members of the household need not be confined to the premises, but visiting is strictly prohibited. The visiting of persons in hospitals is prohibited except in case of actual emergency.

The physician is required to advise the patient, the members of the family and the attendant as to the nature of the disease, of the means of preventing infection and the provisions of these rules.

No person suffering from pneumonia can be removed from the premises except with the consent of the local authorities of the State Department of Public Health and no such person shall be removed from one health jurisdiction to another without having first obtained consent of both jurisdictions.

Public funerals of pneumonia victims are permitted if the body has been properly embalmed or, in case the body is not embalmed, when it is enclosed in a tight casket, the cover not being removed in the presence of the public. Violation of these rules on the part of any person subjects the offender a fine of not to exceed \$200 for each offense or imprisonment in the county jail not to exceed six months or both.

INFLUENZA EPIDEMIC IN ILLINOIS

The State Department of Public Health has issued a note of warning to all communities in the state calling attention to the fact that the epidemic of influenza which seemed to have reached its crest and to have finally subsided is again developing and spreading in many sections of the state. It is the opinion of the department that epidemics of the disease will recur from time to time throughout the winter and that the incident of pneumonia with high mortality is to be expected. At the present time the disease is not spreading with the wave-like regularity noticed early in the epidemic. Infected communities are to be found in all sections of the state and as has been the case since the disease first appeared, the outbreak is explosive in coal mining communities and in other localities where there is general overcrowding on the part of the people.

Influenza was first noticed in serious proportions in Illinois about September 9, when it became prevalent in the Great Lakes Naval Training Station. It was from this point that the disease seems to have spread over the entire state. Singularly

enough, at about the same date a considerable number of cases were reported at the village of Elco in Alexander County, at the extreme southern point of Illinois.

By October first the disease had invaded Camp Grant, where it was widely prevalent, and from which it invaded the city of Rockford and the surrounding country.

From the Great Lakes the disease spread gradually down the North Shore and from October first to November first Chicago suffered the most severe epidemic recorded in the history of the Health Department.

A spot map of Illinois made at that time was exceedingly interesting. It showed the disease spreading like a great wave southward and westward from Lake Michigan with long lines of infected communities marking the course of the principal railway systems. The disease was unquestionably following the main traveling routes.

Large centers of popular cities which were naturally the trading points for wide areas seemed to be centers of infection.

The cost of the epidemic in human lives and human suffering as well as in industrial and commercial loss has been staggering. With the story only partly told, with the disease still spreading in at least twenty counties, there are now recorded 22,566 deaths, 9,000 of which occurred in the city of Chicago. Incomplete as the reports of cases are known to be, there have been 348,291 cases of influenza already reported to the State Department of Public Health. Epidemiologists agree that such reports are not over twenty-five per cent complete and, on this basis, it is believed that 1,340,000 cases have already occurred in Illinois. Viewing the present situation conservatively, it is estimated that there will be 25,000 deaths from influenza and its complications by January 1, 1919, with the enormous total of 1,500,000 cases. And yet Illinois has not suffered as have Massachusetts and Pennsylvania and even by January 1, Illinois will not have felt the full measure of the scourge.

DISTRIBUTION OF INFLUENZA VACCINE

Through the courtesy of the Chicago Department of Health and the Illinois Influenza Commission, the State Department of Public Health is enabled to distribute to the physicians of the state, without charge, supplies of Rosenow vaccine for the immunization against influenza. The first supplies of this vaccine were sent to Chicago from the Rosenow Laboratories at Rochester, Minn., but the vaccine is now being produced under the supervision of the Influenza Commission in the laboratories of the Chicago Health Department.

The first supplies received by the State Department of Health were distributed to draft boards for use among Class A registrants of the new National Army; the second class of persons to receive special consideration in the distribution of vaccine was made

up of physicians and nurses attending influenza and pneumonia cases; while the third class consisted of persons engaged in industries essential to war activities.

At the present time Rosenow vaccine is distributed by the antitoxin agents of the State Department of Public Health and is furnished free to all physicians giving receipt for same. The distributing agents are instructed so far as possible to distribute the limited quantities on hand so that each physician in the community will share in the supplies.

In sending out the Rosenow vaccine, the Department of Public Health calls special attention to the fact that this vaccine is still in its experimental stage and that it is too early to speak definitely as to its preventive power or value. Especial emphasis is laid on the fact that the Rosenow vaccine is not to be regarded as in any sense curative of either influenza or pneumonia.

THE JOURNAL OF ORTHOPAEDIC SURGERY

The American Journal of Orthopaedic Surgery, which is the official organ of the American Orthopaedic Association, announces that with the coming year it will enlarge its scope by serving also as the official organ of the newly formed British Orthopaedic Association.

Hence the name of the publication will be "The Journal of Orthopaedic Surgery."

As this journal has been the only publication in the English language devoted to orthopaedic surgery—and the greatly increased importance of the specialty during the war—it has been felt by the two associations, which count among their members both the Director General of Military Orthopaedics for the United States, Colonel Brackett, and the Inspector of Military Orthopaedics for the British Empire, Major-General Sir Robert Jones, that the best interests of the great mass of mankind now suffering from crippling disabilities will be furthered one step more by such an amalgamation. This closer relationship of all English speaking orthopaedic surgeons has long been a cherished hope of Lieutenant-Colonel Robert B. Osgood, M. C., U. S. A., to whose enthusiastic efforts the establishment of the Journal of Orthopaedic Surgery is largely due.

The journal will be published, as heretofore, by Frank Ernest Gregory, Boston, who assumed the publication in January, 1916, when the journal made its previous step of progress from a quarterly to a monthly publication.

The committees appointed by the British Orthopaedic Association consists of R. C. Elmslie, M. S., F. R. C. S., editor, London; T. R. Armour, F. R. C. S.; W. H. Trethowan, F. R. C. S., and H. Platt, M. S., F. R. C. S., while C. F. Painter, M. D., F. A. C. S., and R. W. Lovett, M. C., F. A. C. S., comprise the committee appointed by the American Orthopaedic Association. Miss Hannah Lissner, Boston, has been appointed in charge of the editorial department of the journal in America.

Society Proceedings

COOK COUNTY

CHICAGO MEDICAL SOCIETY.

Regular Meeting, November 6, 1918.

Work of the Department of Health and Sanitation, United States Shipping Board. (Lantern Slide Demonstration.)—Lieut.-Col. Philip S. Doane, M. C., N. A., Director of Health and Sanitation, U. S. Shipping Board.

Regular Meeting, November 13, 1918.

1. Regulating Medical Practice in Illinois—Francis W. Shepardson, Department of Registration and Education, Springfield, Ill.
2. Some Grievances of the Physician—Fred L. Glenn, Chairman Grievance Committee.
Discussion opened by H. J. Stewart, Otto T. Freer.

Regular Meeting, November 20, 1918.

Joint meeting of the Chicago Medical Society with the Western Roentgen Society, Marshall Field Annex Building.

1. Essential Principles of Deep Roentgen Therapy—A. P. Tyler, Omaha, Neb.
Discussion—Henry Schmitz,
W. A. Pusey,
Frank R. Simpson,
C. W. Hanford.
2. Chest Inconsistencies—Alden Williams, Grand Rapids, Mich.
Discussion—Frank Smithies,
Wm. J. Butler.
3. Cinematographic Case Report—R. L. Smith, Lincoln, Neb.
4. Ownership of Roentgenograms—I. T. Trostler.
Discussion—Fred C. Zapffe.

Regular Meeting, November 27, 1918.

1. What Chicago Is Doing for Her Deaf—Charles H. Long.
Discussion—Miss Mary McCowen,
Daniel MacMillen.
2. Improvements in the Technique of Cesarean Section—J. Clarence Webster.
Discussion—J. B. DeLee.

Regular Meeting, December 4, 1918.

1. Hemolytic Streptococci—D. J. Davis.
Discussion—Frederick Tice,
John Nuzum.
2. The Respiratory Exclusion of the Lungs—C. F. Hoover, Cleveland, Ohio.
Discussion—James M. Neff,
Charles E. Humiston.

CHICAGO LARYNGOLOGICAL AND OTOLOGICAL SOCIETY

Meeting of December 12, 1917, Continued

Dr. J. Holinger said that in the careful work of Dr. Boot one point was of importance for our indications for operation in suspected cases of meningitis: Dr. Boot did not always find Kernig's and Babinski's symptoms present in his cases of meningitis and meningeal irritation. The standpoint, no Kernig and no Babinski, therefore no operation is doctrinarian and would make us lose cases which might be saved by operation. For exploring brain abscesses he preferred a small knife to a needle.

Dr. Boot, closing, said in regard to the case of longitudinal sinus thrombosis that the patient was a young woman, who was just about to graduate from Northwestern University. There was nothing in the past history except that she had had cystitis. She was taken sick and her physician thought it was typhoid fever; she had headache and probably nose bleed and her mental condition was clouded. Examination showed the drum membrane with no bulging but simply a redness showing through from the inner wall. Her mental condition became worse and she finally died; apparently the thing was a metastatic condition from the cystitis.

With regard to the Crow-Beck Symptom, he did not place much confidence in it.

Personals

Dr. Otto L. Schmidt, Chicago, was elected vice-president of the Chicago Historical Society, Nov. 19.

Dr. Gerhardt E. Wyneken resigned from the faculty of Loyola University, October 4.

Dr. Truman W. Brophy has returned after three months spent in the treatment of facial and head wounds in France.

The following Illinois physicians have been commissioned in the Medical Corps, U. S. Army:

Captain—Darwin Mills Keith, Rockford.

First Lieutenant—James Harry Hutton, Chicago. Rob. R. McLallen, Aurora. Arthur J. Dalton, St. Joseph. T. G. Knappenberger, St. Joseph.

Dr. H. Gideon Wells, Chicago, is leaving in a few days for the Balkan States, as a member of the Balkan Commission of the American Red Cross.

Dr. Franklin A. Weatherford, while making a professional call, October 24, suffered a cerebral hemorrhage and is seriously ill at the Englewood Hospital.

Lieut.-Col. Edmund J. Doering, M. C., U. S. Army, Chicago, is reported to have been appointed district medical officer, Personnel Branch, Operations Division, of the General Staff.

Dr. Graham M. Lisor, East Moline, formerly a member of the staff of the Elgin State Hospital,

has been appointed superintendent of the St. James (Minn.) Hospital and Sanitarium.

Dr. E. W. Weis, Ottawa, has been appointed head of the Hygienic Institute of the Tri-cities, LaSalle, Peru and Oglesby. Dr. Weis was formerly secretary of the Illinois State Medical Society.

Dr. William E. Quine, Chicago, is reported to have deeded his residence at 3160 Indiana Avenue, to the Chicago Home Missionary and Church Extension Society of the Methodist Episcopal Church, to be used as a social center for negroes.

Dr. Willis O. Nance, who has been a member of the city council for eight years and for seven years has been chairman of the council committee on public health, was elected trustee of the Sanitary District of Chicago, at the recent election.

News Notes

—Dr. J. E. Allaben, Rockford, was acquitted in the circuit court, Nov. 8, of the charge of performing a criminal operation.

—In the superior court, November 9, Judge Foell issued a temporary injunction restraining the village of Broadview from interfering with the construction of a hospital which is being erected at Speedway Park.

—The International College of Osteopathy, the Columbia College of Chiropractic and the Illinois College of Somapathy, correspondence schools, heretofore located at Elgin, are reported to have closed and to be about to surrender their charters.

—A banquet was held at St. Anthony's Hospital, Rockford, on the occasion of graduation of nurses in the training school of the hospital. Dr. A. C. Eakin acted as toastmaster and Drs. P. L. Markley and E. J. Farrel were among the speakers.

—Dr. James D. Banta, Rock Island, who was arrested, tried and found guilty of violating the Harrison Narcotic Law, about six months ago, and was sentenced to five years imprisonment in the federal penitentiary, Leavenworth, Kan., was released, October 28, as it was found that he had been convicted and imprisoned under invalid acts.

—During the influenza epidemic, three emergency hospitals were organized in Rockford at the

Boys' Club, Knights of Columbus Club and at the Lincoln school. Four hundred and sixty-one cases were cared for in the three hospitals. Forty-two patients died, 31 within twenty-four hours of admission.

—Here is what we have been looking for:

"Tie a handkerchief around the neck when retiring at night and avoid catching the influenza," said Dr. E. R. Proctor, president of the Chicago Osteopathic Association, in discussing the recent influenza epidemic at a meeting of the association in the Hotel Sherman last night."—*Chicago Herald and Examiner*.

Or if that fails, smell the perspiration from the armpits and fill the nostrils with cotton soaked in "skunk oil" as recommended by other "experts." That might help you to forget the influenza, anyway.

—At the recent election, thirty-three Illinois counties voted a county tax levy of 3 mills or less for the construction of tuberculosis hospitals, and nursing, clinic and dispensary services. The campaign was made under the management of W. B. Thurber, executive secretary of the Illinois Tuberculosis Association. Forty Illinois counties have now undertaken to provide institutions for the tuberculous.

—In view of the valuable assistance rendered by medical officers at Camp Grant, during the recent epidemic of influenza, Marlin H. Day, chairman of the Red Cross emergency influenza committee, Rockford, sent letters of thanks to Capt. F. D. Harrison, R. E. Jones and N. M. Johnson, M. C., U. S. Army, who were assigned to duty at the three emergency hospitals opened in Rockford in October.

—Milton Chaiken of Joliet, who was recently arrested by the Department of Registration and Education of the State of Illinois and fined \$75 and costs for violating the Medical Practice Act, was again arraigned in court and fined \$50 and costs on each of six counts. Chaiken was employed in the office of a so-called advertising physician in Joliet. When the physician was out of the office Chaiken would diagnose cases and write prescriptions, signing the name of the physician to them.

—The discussion of "compulsory health insur-

ance" disclosed the fact that it had no supporters in the Society; that it was of doubtful value to the public for whose benefit it is designed, and of positive danger to the advancement of medical science.

On motion it was declared the unanimous opinion of the St. Clair County Medical Society that no such law should be enacted.

A committee, consisting of Drs. Zimmermann, Raab and Lane, was appointed to draft suitable resolutions in support of our position, and in accordance therewith resolutions were adopted.—*St. Clair County Medical Society Bulletin.*

—It may be of interest to some of the readers of this JOURNAL to learn that G. W. Wallerich, in time of peace secretary of V. Mueller & Co., manufacturers of surgical instruments, Chicago, has recently been promoted from the rank of Captain to that of Major. Major Wallerich has been acting as Purchasing Officer in the office of the Surgeon General in Washington since last February. It pleases the JOURNAL very much indeed to know that another one of Chicago's young men has made good, and that his services were appreciated by the Government. It was some undertaking to furnish the Government with surgical instruments and supplies during this period.

—It may be of interest to the profession to learn that the first suggestion of the value of the caterpillar tractor for artillery, was made to the manager of the Holt Mfg. Co., of Peoria, Ill., Mr. M. M. Baker, more than two years before the war, by Dr. G. Frank Lydston of Chicago. Doctor Lydston at that time also submitted to Mr. Baker a rough sketch of what the doctor termed "a moving fort" or "land battle ship," which in effect was what is now known as the "tank." Anyone who doubts the truth of this statement may easily verify it by writing to Mr. Baker, who will be glad to make amends for the skepticism that he expressed at the time mentioned. Be it remarked that Dr. Lydston suggested to Mr. Baker that he submit the idea to the United States Government.

—Dr. Joseph C. Beck writes in a letter from Cognac, France, dated October 30, that he is commandant of the Medical and Surgical Corps of the Czecho-Slovak Contingent in France, and has charge of the American Red Cross Hospital, Unit 113, for the Czecho-Slovak, a hospital with four hundred beds, besides two infirmaries of two

hundred and ten beds and two French hospitals, each with a capacity of two hundred beds, at different times.

His work is not limited to nose and throat cases of reconstruction, but at present he is doing general surgery on the recently wounded and gassed cases.

At the time he wrote there was a very severe epidemic of Spanish influenza which is described as a rapid progressive sepsis with prostration and large mortality, in spite of all treatment.

Dr. Emma Wheat Gillmore, Chicago, of the U. S. Public Health Service, after serving as acting assistant surgeon in the extra cantonment zone of Fort Oglethorpe, was appointed chairman of women physicians of the general medical board, council of national defense.

Lieut.-Col. Philip Schuyler Doane, M. C., U. S. Army, Chicago, head of the Health and Sanitation Division, Industrial Relations Group, U. S. Shipping Board, Emergency Fleet Corporation, will, it is reported, sail for France, next month, to assume command of an evacuation hospital.

Marriages

LIEUT. LEONARD J. MURPHY, M. C., U. S. Army, Fairland, Ill., on duty at Camp Grant, Rockford, Ill., to Miss Rosalie Dulaney of Slater, Mo., October 23.

ASST. SURG. FRANK MULLEN CANNON, Lieutenant (Junior Grade), U. S. Navy, Great Lakes, Ill., to Miss Katherine McGovern of Vaile, La., at Great Lakes, October 30.

Deaths

JAMES L. BROWN, Peoria, Ill.; Medical College of Ohio, 1868; aged 77; a Fellow, A. M. A.; died at his home, November 8.

WILLIAM JOFFEE, Chicago; Rush Medical College, 1904; aged 38; a Fellow, A. M. A.; died at his home, October 21, from pneumonia.

MELCHI BONEBRAKE, Taylorville, Ill.; University of Pennsylvania, Philadelphia, 1867; aged 75; died at his home, October 23, from heart disease.

GEORGE GREER, Vandalia, Ill.; Missouri Medical College, St. Louis, 1882; aged 67; died at his home, October 17, from cerebral hemorrhage.

WILLIAM H. JOHNSON, Barry, Ill.; Missouri Medical College, St. Louis, 1879; aged 63; died in Barry, November 7, from cerebral hemorrhage.

JOHN GARNES CRAIG, Chicago; University of Michigan, Ann Arbor, 1891; aged 53; died at his home, November 6, from carcinoma of the tongue.

ROBERT LENARD, Chicago; Illinois Medical College, Chicago, 1900; aged 44; died at South Chicago Hospital, October 27, from pneumonia, following influenza.

PAUL HENRY HESSE, London Mills, Ill.; Chicago College of Medicine and Surgery, 1908; aged 45; died at the Red Cross Hospital, Kankakee, Ill., October 16.

WILLIAM I. NEWBERRY, Smithfield, Ill.; College of Physicians and Surgeons, Keokuk, Iowa, 1896; aged 47; died at his home, October 30, from pneumonia, following influenza.

AARON DUDLEY FRENCH, Allendale, Ill.; Barnes Medical College, St. Louis, 1904; aged 42; a member of the Illinois State Medical Society; died at his home, October 17, from pneumonia.

HORACE CHARLES NEWBURY, Chicago; University of Pennsylvania, Philadelphia, 1918; aged 24; an intern at the Ravenswood Hospital; died November 19, from pneumonia, following influenza.

LIEUT. LOUIS ROBERT KRATZE, M. C., U. S. ARMY, Chicago; University of Illinois, Chicago, 1912; aged 35; a Fellow, A. M. A.; died recently at Camp Crane, Allentown, Pa., from influenza.

LIEUT. HOMER E. VAN EPPS, M. C., U. S. ARMY, Sterling, Ill.; Hahnemann Medical College, Chicago, 1916; aged 31; died recently at Camp Mills, Long Island, N. Y., from pneumonia, following influenza.

A. DOUGLAS ERWIN, Fidelity, Ill.; Missouri Medical College, St. Louis, 1883; while returning from a hunting trip, October 7, was shot and killed by the accidental discharge of a gun carried by one of his companions.

EDWARD ELLIOTT MORGAN, North Henderson, Ill.; Keokuk Medical College, College of Physicians and Surgeons, 1905; aged 36; a Fellow, A. M. A.; died at his home, November 1, from pneumonia, following influenza.

EMIL HENRY ZIMMERMANN, Colome, S. D., formerly of Cicero, Ill.; Loyola University, Chicago, 1913; aged 33; a member of the Illinois State Medical Society; died at his home, October 21, from pneumonia, following influenza.

THOMAS EUSEBIUS BYRNES, Chicago; Loyola University, Chicago, 1918; aged 27; a member of the house staff of St. Bernard's Hospital, Chicago; died in that institution, October 10, from endocarditis following influenza.

RICHARD H. SCHNEIDER, Chicago; National Medical

University, Chicago, 1907; aged 57; was found dead in his apartment, November 1, death being due, it is believed, to suicide by gas asphyxiation, while suffering from melancholia.

LEE G. BETTS, Prairie City, Ill.; Ensworth Medical College, St. Joseph, Mo., 1902; aged 41; a member of the Illinois State Medical Society; died at the Holmes Hospital, Macomb, October 21, from pneumonia, following influenza.

PHILLIPS CAREY VAUGHAN, Chicago; Rush Medical College, 1888; Bellevue Hospital Medical College, 1889; aged 51; medical director of the Ideal Sick Benefit and Accident Association; died at his home, October 25, from pneumonia.

JOSEPH FRANK ETZBACH, Chicago; State University of Iowa, Iowa City, 1905; aged 34; at one time a member of the Illinois State Medical Society; died in the La Salle (Ill.) Hospital, October 20, from pneumonia, following influenza.

LIEUT. ARTHUR MORGAN EVANS, M. C., U. S. ARMY, Chicago; University of Illinois, Chicago, 1916; aged 28; a Fellow, A. M. A.; died in Evacuation Hospital No. 21, Camp Custer, Battle Creek, Mich., October 5, from cerebrospinal meningitis.

JESSE ROBINSON KAUFFMAN, Blue Island, Ill.; Rush Medical College, 1907; aged 34; a Fellow, A. M. A.; assistant professor of surgery in Loyola University, Chicago; local surgeon to the Rock Island System; died at his home, October 28, from pneumonia, following influenza.

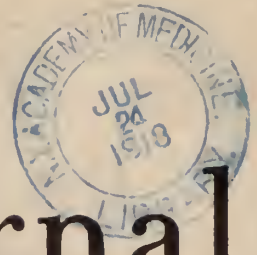
ROY FRANCIS ROGERS, Springfield, Ill.; Rush Medical College, 1901; aged 42; a member of the Illinois State Medical Society; a member of the Aesculapian Society of the Wabash Valley, and of the staff of St. John's Hospital, Springfield; died at his home, October 21, from pneumonia, following influenza.

GEORGE A. STEWART, Brookport, Ill.; Louisville (Ky.) Medical College, 1889; aged 55; a member of the Illinois State Medical Society; local surgeon to the St. Louis and East St. Louis Suburban Railroad Company; died in Centropolis, Ill., October 31, as the result of rupture of the gallbladder.

DR. ELDORA ALICE THOMAS, graduate of University of Illinois, 1913; Medical Missionary at West Africa; recently house physician at University Hospital; member of American Medical Association and Illinois State Medical Society, at age of 30, died of pneumonia with influenza, complicated by chronic valvular lesion of the heart, at the University Hospital, Chicago, Ill.

DR. EDWARD JOHN MILLER, Urbana, Ill., University of Illinois, Chicago, 1912; age 30; a member of the Illinois State Medical Society, of the Champaign County Medical Society, appointed Surgeon of the Medical Advisory Board No. 13A of Champaign, Ill., and Surgeon of the S. A. T. C. of the University of Illinois, died at his home in Urbana October 15, 1918, from bronchial pneumonia following influenza.

Illinois Medical Journal



OFFICE OF PUBLICATION 3338 OGDEN AVENUE, CHICAGO

Vol. XXXIV, No. 1

CHICAGO, JULY, 1918

\$2.00 a Year

CONTENTS

ORIGINAL ARTICLES		EDITORIAL	
	PAGE		PAGE
President's Address. <i>E. B. Coolley, M. D., Danville, Ill.</i>	1	Pasteur Treatment by Mail	23
Oration on Surgery. <i>Wm. O'Neill Sherman, M. D., Pittsburg, Pa.</i>	4	A Need for Another Form of Medical Institution	23
Work of the Grievance Committee. <i>Fred L. Glenn, M. D., Chicago</i>	10	Bequests to Public Institutions	24
Roentgen Examination of Kidney Tumors. <i>Paul Eisen, M. D., Chicago</i>	14	PUBLIC HEALTH	
Osteosarcoma of the Femur with Unusual Roentgen Findings. <i>Max Reichmann, M. D., Chicago</i>	16	Revised Tuberculosis Rules	25
Strictures of the Urethra. <i>C. H. Solomon, M. D., Chicago</i>	18	Sanitary Engineering Activities for June	25
		Illinois Baby Health Conference	25
		Illinois Course for Community Nurses	25
		Public Health Notes	26
		Tri-State District Medical Society	26

(Continued on page 36)

Entered as Second-Class Matter August 28, 1913, at the Post Office, Chicago, Illinois, under the Act of March 3, 1879.

Church and Peterson's Nervous and Mental

EIGHTH EDITION

For the *eighth edition* this work has undergone a thorough revision. Vertigo, infantile paralysis and syphilis have received special revision. Throughout references to the new investigations of spinal fluid have been introduced. Tetany has been given its place among nervous diseases. The text is very fully illustrated.

Octavo of 940 pages, with 350 illustrations. By ARCHIBALD CHURCH, M. D., Professor of Nervous and Mental Diseases and Medical Jurisprudence, Northwestern University Medical School, Chicago; and FREDERICK PETERSON, M. D., formerly Professor of Psychiatry, College of Physicians and Surgeons, New York. Cloth, \$5.00 net.

Dercum's Mental Diseases

NEW (2d) EDITION

Dr. Dercum first takes up the various primary forms of mental disease, giving emphasis to those you meet in your daily practice as general practitioner—delirium, confusion, stupor. Then he considers melancholia, mania, the insanities of early life, paranoia, the neurasthenic-neuropathic disorders, the dementias, *mental disturbances of the infections*, intoxicational insanities, those due to metabolic disorders, visceral diseases, diseases of the nervous system, *insanities of pregnancy*.

Octavo of 479 pages. By FRANCIS X. DERCUM, PH. D., M. D., Professor of Nervous and Mental Diseases at Jefferson Medical College, Philadelphia. Cloth, \$3.50 net.

Spear on Nervous Diseases

CONCISE YET COMPLETE

This book embodies the facts necessary for a proper understanding of the anatomy, physiology, and pathology of the nervous system. Each disease is described clearly, devoting to each the consideration its importance demands. Special attention is given differential diagnosis and treatment. The treatment recommended requires no special training.

Octavo of 660 pages, illustrated. By IRVING J. SPEAR, M. D., Professor of Neurology, University of Maryland. Cloth, \$8.00 net.

W. B. SAUNDERS COMPANY

Philadelphia and London

This Issue, 6750 Copies.

The Facts About the Origin of Malted Milk

In 1883, Horlick, of Racine, Wis., discovered the process for reducing whole milk to a powder form, combined with the soluble extract of malted grain, and devised the name Malted Milk.

This discovery was American from inception to finish, and not of foreign origin. It was of great importance to humanity, since for the first time milk was reduced to a dry powder form, digestible, soluble in water, and would keep in any climate.

There was no Malted Milk in the world, other than Horlick's, for nearly twenty years—and during this time Horlick's shipped to Europe large quantities of their product.

When Horlick's had made Malted Milk a success, various imitations then appeared upon the market. Thousands of physicians know the above facts and will not endorse imitations of the "Original."

Horlick's Malted Milk Co. Racine, Wis.

Hay Fever

Successfully Treated with

BACTERIAL VACCINES

Pollen irritation and breathing of the hot dust laden atmosphere favors the development of pyogenic bacteria in the respiratory tract which then become a primary factor of the disease.

Experience shows that the immunizing influence of an appropriate bacterin will either cure the disease or so modify it that it causes but little distress. Use Sherman's No. 40.

Write for literature.

MANUFACTURER
OF
BACTERIAL VACCINES
G. H. SHERMAN, M.D.
Detroit, Mich.
U.S.A.

READER!

are you buying your supplies
from our advertisers?

Our advertising pages are
your property as a member of
the Illinois State Medical
Society.

Advertisers will pay for
space in proportion as you
buy from them, and thus
make the space valuable to
them.

Order now, and write that
you saw the "ad" in the
JOURNAL.

PNEUMONIA

Mortality reduced 25 per cent

ACCORDING to Major Nichols, U. S. A., the death rate in pneumonia has been reduced from 30 per cent to 5 per cent by the early intravenous administration of large doses of Antipneumococcus Serum-Type I.

The serum treatment of lobar pneumonia has passed the experimental stage and, to quote Major Nichols, "No patient with Type I infection who dies without the early intravenous administration of large doses of Type I serum can be said to have received the best treatment."

Lederle's ANTIPNEUMOCOCCUS SERUM — TYPE I is standardized by animal protection tests, according to the method originally outlined by Cole, such that 1 c. c. will protect against 500,000 fatal doses of live pneumococci, Type I.

Each lot of *Lederle's* ANTIPNEUMOCOCCUS SERUM—TYPE I is safeguarded by standard tests for potency, sterility and safety prescribed by the United States Government.

Lederle's ANTIPNEUMOCOCCUS SERUM — TYPE I is marketed in special syringe packages containing 50 c. c., thus facilitating the administration of the recommended doses of 100 to 200 c. c.

Every package of *Lederle's* ANTIPNEUMOCOCCUS SERUM—TYPE I bears the date of manufacture, thus insuring the physician against the use of serum of unknown age.

Price \$6.50 per package of 50 c. c.

Literature on request.

Lederle Antitoxin Laboratories

New York

Chicago

Kansas City

New Orleans



Ottawa, Canada

THE RADIUM INSTITUTE

1604 Mallers Bldg., 59 E. Madison St.
Corner Wabash Ave., Tel. Randolph 5794
C H I C A G O

DR. FRANK E. SIMPSON

COUNCIL

DR. F. A. BESLEY DR. O. T. FREER
DR. E. C. DUDLEY DR. L. E. SCHMIDT
DR. A. R. EDWARDS DR. G. F. SUKER

THE HIGH COST OF RADIUM makes it impracticable for the individual physician to own a supply sufficient for all purposes.

We desire to confer and cooperate with surgeons, assuring them adequate amounts of Radium to meet the requirements of patients referred to us.

Radium is indicated in the treatment of malignant and benign growths; post-operative prophylactic radiations, etc., etc.

Your inquiry or request for specific information on any point will be welcome.

AIDS IN DIAGNOSIS

Wassermann Test\$5.00
Blood and Spinal Fluid, using both Wassermann and Noguchi system in each case
Complement Fixation Test..... 5.00
Gonorrhea, Tuberculosis, etc.
Tissue Pathological Examination...5.00
Abderhalden Test 5.00
Pregnancy, Dementia Precox, Carcinoma

Autogenous Vaccines\$5.00
Smears, Sputa, etc..... 1.00
Urinalysis 1.50
Pasteur Treatment 40.00
(Antirabic Vaccine, P.D. & Co.—Cumming)
FREE Bleeding tubes, Sterile containers, Culture Media and instruction for sending specimens

Our names and reputations stand back of our work

ESTABLISHED 1904

CHICAGO LABORATORY

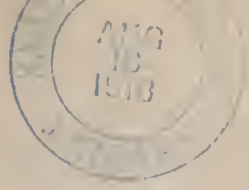
Phone Randolph 3610, 3611, 3612

RALPH W. WEBSTER, M. D., Ph. D., Chemical Dept.
THOMAS L. DAGG, M. D., Pathological Dept.
C. CHURCHILL CROY, M. D., Bacteriological Dept.

25 E. Washington St.
CHICAGO, ILLINOIS



Mention ILLINOIS MEDICAL JOURNAL when writing to advertisers



Illinois Medical Journal

OFFICE OF PUBLICATION 3338 OGDEN AVENUE. CHICAGO

Vol. XXXIV, No. 2

CHICAGO, AUGUST, 1918

\$2.00 a Year

CONTENTS

ORIGINAL ARTICLES		EDITORIAL	
	PAGE		PAGE
The Work of the A. M. A. in the World War. <i>J. W. VanDerslice, M. D., Chicago</i>	57	The Edmonds Bill	94
Plastic Surgery. <i>Lawrence Ryan, M. D., Chicago</i>	64	Lake Michigan	94
The Diagnosis and Treatment of Tuberculosis of the Kidney. <i>Daniel N. Eisendrath, M. D., Chicago</i>	71	Examinations for the M. R. C., U. S. Army	95
The Menopause from the Standpoint of Mental Disorder. <i>Frank P. Norbury, M. D., Springfield, and Albert H. Dollear, M. D., Jacksonville</i>	77	Uniform Physical Standard	95
Auricular Fibrillation. <i>James G. Carr, M. D., Chicago</i> ..	83	Publications by Army Medical Officers	96
Some Undesirable Results Produced by Some of the Present Health Laws as Now Enforced. <i>Albert E. Mowry, M. D., Chicago</i>	87	First Medical School	96
		Health Insurance	96
		Tri-State Medical Society Program	97

PUBLIC HEALTH

State Division of Social Hygiene	100
Illinois Better Baby Contest	100

(Continued on page 36)

Entered as Second-Class Matter August 28, 1913, at the Post Office, Chicago, Illinois, under the Act of March 3, 1879.
Acceptance for mailing at special rate of postage provided for in Section 1103, Act of October 3, 1917, authorized on July 15, 1918.

A NEW PERSONAL SURGERY

Warbasse's Surgical Treatment

This is a work on the therapy of surgical diseases. Every department is dealt with—not only *general surgery*, but *special surgery* as well—brain, eye, ear, nose, throat, skin, gynecology, genito-urinary, cosmetic and emergency surgery, heliotherapy, and bandaging. Under each division is taken up hygienic treatment, diet, preparation for operation, operating-room organization and materials, operative treatment in minutest detail, and post-operative care.

The newest methods of treating wounds and infections and the use of serums, vaccines, bacterins, and blood products are given. Much of the material on amputations, fractures, blood-vessel surgery, plastic operations and other procedures is peculiarly Dr. Warbasse's and can be found nowhere else. The various procedures, major and minor, are graphically depicted step by step by 2400 *original illustrations*.

This is a work not only for the surgeon and trained operator accustomed to work under the most ideal conditions, but most decidedly for the surgeon who must administer treatment under circumstances that preclude the more radical measures.

Three octavos totalling 3000 pages and separate *Desk Index Volume*. BY JAMES PETER WARBASSE, M.D., formerly Attending Surgeon to the Methodist Episcopal Hospital, Brooklyn, N. Y.
Per Set: Cloth, \$30.00 net.

W. B. SAUNDERS COMPANY, - Philadelphia and London

This Issue, 6,800 Copies.

An Aid in Convalescence

"Horlick's" is clean, safe and dependable. Its quality assures service and results. Fats, proteids, carbohydrates and salts are properly proportioned and in easily assimilated form to progressively build up the patient.

To avoid imitations

SPECIFY

"Horlick's the Original"

Samples Sent Upon Request

Horlick's Malted Milk Co.
Racine, Wis.

*This is the package
Avoid Imitations*



RADIUM SERVICE

BY

THE PHYSICIANS' RADIUM ASSOCIATION OF CHICAGO

(Incorporated under the laws of Illinois: "Not for profit")

Established to make Radium more available for approved therapeutic purposes in the Middle West. Has the large and complete equipment needed to meet the special requirements of any case in which Radium Therapy is indicated. Radium furnished to responsible physicians; or certain cases may be sent to our office for treatment. Advice given about the use of Radium. Moderate rental fees charged.

THE PHYSICIANS' RADIUM ASSOCIATION

1104 Tower Bldg., 6 N. Michigan Ave.

Telephones: Randolph 6897-6898.

Board of Directors: WILLIAM L. BAUM, M.D.; N. SPROAT HEANEY, M.D.; THOMAS J. WATKINS, M.D.; FREDERICK MENGE, M.D.; ALBERT WOELFEL, M.D. Managing Director: ALBERT WOELFEL, M.D.

PNEUMONIA

Mortality reduced 25 per cent

ACCORDING to Major Nichols, U. S. A., the death rate in pneumonia has been reduced from 30 per cent to 5 per cent by the early intravenous administration of large doses of Antipneumococcus Serum-Type I.

The serum treatment of lobar pneumonia has passed the experimental stage and, to quote Major Nichols, "No patient with Type I infection who dies without the early intravenous administration of large doses of Type I serum can be said to have received the best treatment."

Lederle's ANTIPNEUMOCOCCUS SERUM — TYPE I is standardized by animal protection tests, according to the method originally outlined by Cole, such that 1 c. c. will protect against 500,000 fatal doses of live pneumococci, Type I.

Each lot of *Lederle's* ANTIPNEUMOCOCCUS SERUM—TYPE I is safeguarded by standard tests for potency, sterility and safety prescribed by the United States Government.

Lederle's ANTIPNEUMOCOCCUS SERUM — TYPE I is marketed in special syringe packages containing 50 c. c., thus facilitating the administration of the recommended doses of 100 to 200 c. c.

Every package of *Lederle's* ANTIPNEUMOCOCCUS SERUM—TYPE I bears the date of manufacture, thus insuring the physician against the use of serum of unknown age.

Price \$6.50 per package of 50 c. c.

Literature on request.

Lederle Antitoxin Laboratories

New York

Chicago

Kansas City

New Orleans

Ottawa, Canada

THE RADIUM INSTITUTE

1604 Mallers Bldg., 59 E. Madison St.
Corner Wabash Ave., Tel. Randolph 5794
C H I C A G O

DR. FRANK E. SIMPSON

COUNCIL

DR. F. A. BESLEY DR. O. T. FREER
DR. E. C. DUDLEY DR. L. E. SCHMIDT
DR. A. R. EDWARDS DR. G. F. SUKER

THE HIGH COST OF RADIUM makes it impracticable for the individual physician to own a supply sufficient for all purposes.

We desire to confer and cooperate with surgeons, assuring them adequate amounts of Radium to meet the requirements of patients referred to us.

Radium is indicated in the treatment of malignant and benign growths; post-operative prophylactic radiations, etc., etc.

Your inquiry or request for specific information on any point will be welcome.

AIDS IN DIAGNOSIS

Wassermann Test\$5.00
Blood and Spinal Fluid, using both Wassermann and Noguchi system in each case
Complement Fixation Test..... 5.00
Gonorrhea, Tuberculosis, etc.
Tissue Pathological Examination....5.00
Abderhalden Test 5.00
Pregnancy, Dementia Precox, Carcinoma

Autogenous Vaccines\$5.00
Smears, Sputa, etc..... 1.00
Urinalysis 1.50
Pasteur Treatment 40.00
(Antirabic Vaccine, P.D. & Co.—Cumming)
FREE Bleeding tubes, Sterile containers, Culture Media and instruction for sending specimens

Our names and reputations stand back of our work

ESTABLISHED 1904

CHICAGO LABORATORY

Phone Randolph 3610, 3611, 3612

RALPH W. WEBSTER, M. D., Ph. D., Chemical Dept.
THOMAS L. DAGG, M. D., Pathological Dept.
C. CHURCHILL CROY, M. D., Bacteriological Dept.

25 E. Washington St.
CHICAGO, ILLINOIS



Illinois Medical Journal

Published Monthly

OFFICE OF PUBLICATION 3338 OGDEN AVENUE, CHICAGO

Vol. XXXIV, No. 3 CHICAGO, SEPTEMBER, 1918

\$2.00 a Year

CONTENTS

ORIGINAL ARTICLES

PAGE

The Practice of Preventive Medicine. <i>William S. Sadler, M. D., Chicago</i>	113
Postponing Old Age. <i>Charles J. Whalen, M. D., Chicago</i>	120
Practical Ideas Regarding the Treatment of Acidosis, Commonly Called Uremia. <i>J. H. Stealy, M. D., Freeport, Ill.</i>	129
Congenital Hypertrophic Pyloric Stenosis. <i>Charles Wallace Poorman, M. D., Chicago</i>	133
Fallacies of the Face Mask in the Control of the Acute Infectious Diseases. <i>Archibald L. Hoyne, M. D., Chicago</i>	136
Surgical Treatment of Unilateral Renal Tuberculosis: Importance of Early Diagnosis. <i>Herman L. Kretschmer, M. D., Chicago</i>	138

ORIGINAL ARTICLES

PAGE

A Study of the Physical Condition of 800 Registrants in the Selective Draft of 1917. <i>Charles B. Johnson, M. D., Champaign, Ill.</i>	143
The Civil Administrative Code of Illinois and the Medical Practice Act. <i>Francis W. Shepardson, Springfield, Ill.</i>	146
The Exophthalmic Goiter. <i>E. P. Sloan, M. D., Bloomington, Ill.</i>	155
History of the Illinois State Medical Society. Preliminary Statement. <i>George N. Kreider, M. D., Springfield, Ill.</i>	158
The Treatment of Mercuric Chloride Poisoning. <i>Bernard Fanlus, M. D., Chicago</i>	159

(Continued on page 36)

Entered as Second-Class Matter August 28, 1913, at the Post Office, Chicago, Illinois, under the Act of March 3, 1879
Acceptance for mailing at special rate of postage provided for in Section 1103, Act of October 3, 1917, authorized on July 15, 1918.

JUST OUT—NEW (4th) EDITION

Todd's Clinical Diagnosis

This is a clinical laboratory guide as well as a clinic diagnosis. It is a clear and concise study of disease from the microscopic and clinical standpoints. It has many features that bring it up prominently above similar works. It is small in size, yet complete. It is concise but gives full descriptions of methods and microscopic structures. Its illustrations (232, many in colors) are more numerous and more accurate than in any other book on the subject.

This edition is thoroughly up to date, including such new material as matching blood for transfusion—of great importance in *military work*; the new Bass and Johns concentration method for malarial parasites, the fractional method of gastric analysis, vital staining of blood corpuscles, resistance of red corpuscles, the mastic reaction in the spinal fluid, Wilber and Addis method for urobilin in diagnosing pernicious anemia, estimation of amylase in urine and feces in diagnosing pancreatic disease. The book is used at the Base Hospitals.

12mo of 687 pages, illustrated. By JAMES CAMPBELL TODD, M.D., Professor of Clinical Pathology, University of Colorado. Cloth, \$3.00 net.

W. B. SAUNDERS COMPANY

Philadelphia and London

This Issue, 6,800 Copies.

An Aid in Convalescence

"Horlick's" is clean, safe and dependable. Its quality assures service and results. Fats, proteids, carbohydrates and salts are properly proportioned and in easily assimilated form to progressively build up the patient.

To avoid imitations

SPECIFY

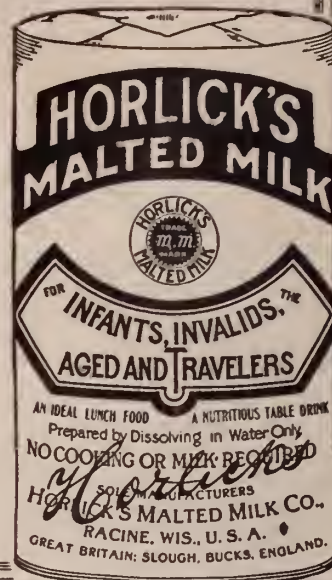
"Horlick's the Original"

Samples Sent Upon Request

Horlick's Malted Milk Co.

Racine, Wis.

*This is the package
Avoid Imitations*



RADIUM SERVICE

BY

THE PHYSICIANS' RADIUM ASSOCIATION OF CHICAGO

(Incorporated under the laws of Illinois: "Not for profit")

Established to make Radium more available for approved therapeutic purposes in the Middle West. Has the large and complete equipment needed to meet the special requirements of any case in which Radium Therapy is indicated. Radium furnished to responsible physicians; or certain cases may be sent to our office for treatment. Advice given about the use of Radium. Moderate rental fees charged.

THE PHYSICIANS' RADIUM ASSOCIATION

1104 Tower Bldg., 6 N. Michigan Ave.

Telephones: Randolph 6897-6898.

Board of Directors: WILLIAM L. BAUM, M.D.; N. SPROAT HEANEY, M.D.; THOMAS J. WATKINS, M.D.; FREDERICK MENGE, M.D.; ALBERT WOELFEL, M.D. Managing Director: ALBERT WOELFEL, M.D.

Save the Babies!

AT every tick of the clock, a baby is born somewhere in the world; but statistics show that 1 out of every 7 babies born is destined to die in infancy. Infantile diarrhea and other putrefactive disturbances of the bowels are responsible for more than $\frac{1}{3}$ of this infant mortality.

BACILLUS BULGARICUS - LEDERLE checks the growth of putrefactive bacteria; promotes normal intestinal digestion; and helps to establish healthful life. It is efficient for breast-fed infants, for the milk-and-cereal-fed child, as well as for the adult who suffers from intestinal toxemia. It is easily administered in milk or sweetened water, and for adults a dash of orange or grapefruit juice may be added.

BACILLUS BULGARICUS - LEDERLE has been proven to be a pure culture of living Bulgarian bacilli. (See report of Council on Pharmacy and Chemistry, The Journal, A. M. A., Dec. 6, 1913, p. 2084). It is supplied in packages of 20 vials and in 3 ounce bottles.

Booklet, containing published clinical reports, sent on request.

Lederle Antitoxin Laboratories

NEW YORK CHICAGO KANSAS CITY NEW ORLEANS

THE RADIUM INSTITUTE

1604 Mallers Bldg., 59 E. Madison St.
Corner Wabash Ave., Tel. Randolph 5794
C H I C A G O

DR. FRANK E. SIMPSON

COUNCIL

DR. F. A. BESLEY DR. O. T. FREER
DR. E. C. DUDLEY DR. L. E. SCHMIDT
DR. A. R. EDWARDS DR. G. F. SUKER

THE HIGH COST OF RADIUM makes it impracticable for the individual physician to own a supply sufficient for all purposes.

We desire to confer and cooperate with surgeons, assuring them adequate amounts of Radium to meet the requirements of patients referred to us.

Radium is indicated in the treatment of malignant and benign growths; post-operative prophylactic radiations, etc., etc.

Your inquiry or request for specific information on any point will be welcome.

AIDS IN DIAGNOSIS

Wassermann Test\$5.00
Blood and Spinal Fluid, using both Wassermann and Noguchi system in each case
Complement Fixation Test..... 5.00
Gonorrhea, Tuberculosis, etc.
Tissue Pathological Examination....5.00
Abderhalden Test 5.00
Pregnancy, Dementia Precox, Carcinoma

Autogenous Vaccines\$5.00
Smears, Sputa, etc..... 1.00
Urinalysis 1.50
Pasteur Treatment 40.00
(Antirabic Vaccine, P.D. & Co.—Cumming)
FREE Bleeding tubes, Sterile containers, Culture Media and instruction for sending specimens

Our names and reputations stand back of our work

ESTABLISHED 1904

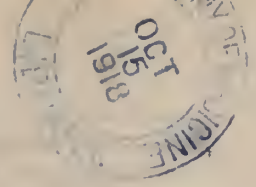
CHICAGO LABORATORY

Phone Randolph 3610, 3611, 3612

RALPH W. WEBSTER, M. D., Ph. D., Chemical Dept.
THOMAS L. DAGG, M. D., Pathological Dept.
C. CHURCHILL CROY, M. D., Bacteriological Dept.

25 E. Washington St.
CHICAGO, ILLINOIS





Illinois Medical Journal

Published Monthly

OFFICE OF PUBLICATION 3338 OGDEN AVENUE, CHICAGO

Vol. XXXIV, No. 4

CHICAGO, OCTOBER, 1918

\$2.00 a Year

CONTENTS

ORIGINAL ARTICLES

	PAGE
Personal Experiences Concerning the Operation for Senile Cataract. <i>Frank Allport, M. D., Chicago</i>	185
Status Thymus Lymphaticus. <i>Edward F. Garraghan, M. D., Chicago</i>	189
Focal Infections in Relation to Diseases of the Eye. <i>Thomas Faith, M. D., Chicago</i>	193
Some Eye Injuries that can be Prevented. <i>Willis O. Nance, M. D., Chicago</i>	199
The Treatment of Intranasal and Accessory Sinus Dis-eases. <i>Otto J. Stein, M. D., Chicago</i>	202
Middle Ear Infections. <i>C. E. Price, M. D., Robinson, Ill.</i>	204

ORIGINAL ARTICLES

	PAGE
A Case of Multiple Sclerosis with Eye Findings. <i>E. R. Crossley, M. D., Chicago</i>	209
Ligature of the Vessels to Arrest Hemorrhage after Ton-sillectomy. <i>Henry R. Boettcher, M. D., Chicago</i>	212
Spontaneous Pulsating Exophthalmos. <i>G. W. Boot, M. D., Chicago</i>	217

EDITORIAL

Two Letters	219
Good Roads Bill	220
Health Conditions at the Cantonments	220
Selective Service Committee	220

(Continued on page 36)

Entered as Second-Class Matter August 28, 1913, at the Post Office, Chicago, Illinois, under the Act of March 3, 1879
Acceptance for mailing at special rate of postage provided for in Section 1103, Act of October 3, 1917, authorized on July 15, 1918.

Hirst's Obstetrics

JUST ISSUED
NEW (18th) EDITION

This edition is virtually a new work. The revision was so heavy that the book had to be reset. All the new advances in the field of obstet-rics are included, presenting the subject from the viewpoint of modern obstetrics. Among the more important and extensive additions are new methods of anesthesia, new operations for repair of injuries to the birth canal, new technic for cesarean section and for other obstet-ric operations. Many new illustrations have been added, the work now containing 715 illustrations, 38 of them in colors.

Dr. Hirst's book has long been a standard. This present edition is a summary of thirty years of active practice devoted exclusively to obstetrics and gynecic surgery. During this time Dr. Hirst has served as consulting and attendant obstetrician and gynecologist to eight of the principal hospitals of Philadelphia, and has been engaged in teaching in clinics, hospitals, laboratories, and the lecture room. His work, therefore, is an ideal text-book for the undergraduate, and a practical guide for the general practitioner.

Octavo of 863 pages, with 715 illustrations, 38 in colors. By BARTON COOKE HIRST, M.D., LL.D., Professor of Obstetrics, University of Pennsylvania. Cloth, \$5.00 net.

W. B. SAUNDERS COMPANY

Philadelphia and London

This Issue, 2,500 Copies.

An Aid in Convalescence

"Horlick's" is clean, safe and dependable. Its quality assures service and results. Fats, proteids, carbohydrates and salts are properly proportioned and in easily assimilated form to progressively build up the patient.

To avoid imitations

SPECIFY

"Horlick's the Original"

Samples Sent Upon Request

Horlick's Malted Milk Co.

Racine, Wis.

*This is the package
Avoid Imitations*



RADIUM SERVICE

BY

THE PHYSICIANS' RADIUM ASSOCIATION OF CHICAGO

(Incorporated under the laws of Illinois: "Not for profit")

Established to make Radium more available for approved therapeutic purposes in the Middle West. Has the large and complete equipment needed to meet the special requirements of any case in which Radium Therapy is indicated. Radium furnished to responsible physicians; or certain cases may be sent to our office for treatment. Advice given about the use of Radium. Moderate rental fees charged.

THE PHYSICIANS' RADIUM ASSOCIATION

1104 Tower Bldg., 6 N. Michigan Ave.

Telephones: Randolph 6897-6898.

Board of Directors: WILLIAM L. BAUM, M.D.; N. SPROAT HEANEY, M.D.; THOMAS J. WATKINS, M.D.; FREDERICK MENGE, M.D.; ALBERT WOELFEL, M.D. Managing Director: ALBERT WOELFEL, M.D.

Save the Babies!

AT ever tick of the clock a baby is born somewhere in the world; but statistics show that 1 out of every 7 babies born is destined to die in infancy. Infantile diarrhea and other putrefactive disturbances of the bowels are responsible for more than $\frac{1}{3}$ of this infant mortality.

BACILLUS BULGARICUS - LEDERLE checks the growth of putrefactive bacteria; promotes normal intestinal digestion; and helps to establish healthful life. It is efficient for breast-fed infants, for the milk-and-cereal-fed child, as well as for the adult who suffers from intestinal toxemia. It is easily administered in milk or sweetened water, and for adults a dash of orange or grapefruit juice may be added.

BACILLUS BULGARICUS - LEDERLE has been proven to be a pure culture of living Bulgarian bacilli. (See report of Council on Pharmacy and Chemistry, The Journal, A. M. A., Dec. 6, 1913, p. 2084). It is supplied in packages of 20 vials and in 3 ounce bottles.

Booklet, containing published clinical reports, sent on request.

Lederle Antitoxin Laboratories

NEW YORK CHICAGO KANSAS CITY NEW ORLEANS

THE RADIUM INSTITUTE

1604 Mallers Bldg., 59 E. Madison St.
Corner Wabash Ave., Tel. Randolph 5794
C H I C A G O

DR. FRANK E. SIMPSON

COUNCIL

DR. F. A. BESLEY DR. E. C. DUDLEY
DR. A. R. EDWARDS DR. O. T. FREER
DR. M. HERZOG DR. L. E. SCHMIDT
DR. G. F. SUKER

THE HIGH COST OF RADIUM makes it impracticable for the individual physician to own a supply sufficient for all purposes.

We desire to confer and cooperate with surgeons, assuring them adequate amounts of Radium to meet the requirements of patients referred to us.

Radium is indicated in the treatment of malignant and benign growths; post-operative prophylactic radiations, etc., etc.

Your inquiry or request for specific information on any point will be welcome.

AIDS IN DIAGNOSIS

Wassermann Test\$5.00
Blood and Spinal Fluid, using both Wassermann and Noguchi system in each case
Complement Fixation Test..... 5.00
Gonorrhea, Tuberculosis, etc.
Tissue Pathological Examination....5.00
Abderhalden Test 5.00
Pregnancy, Dementia Precox, Carcinoma

Autogenous Vaccines\$5.00
Smears, Sputa, etc..... 1.00
Urinalysis 1.50
Pasteur Treatment40.00
(Antirabic Vaccine, P.D. & Co.—Cumming)
FREE Bleeding tubes, Sterile containers, Culture Media and instruction for sending specimens

Our names and reputations stand back of our work

ESTABLISHED 1904

CHICAGO LABORATORY

Phone Randolph 3610, 3611, 3612

RALPH W. WEBSTER, M. D., Ph. D., Chemical Dept.
THOMAS L. DAGG, M. D., Pathological Dept.
C. CHURCHILL CROY, M. D., Bacteriological Dept.

25 E. Washington St.
CHICAGO, ILLINOIS



Illinois Medical Journal

Published Monthly

OFFICE OF PUBLICATION 3338 OGDEN AVENUE, CHICAGO

Vol. XXXIV, No. 5

CHICAGO, NOVEMBER, 1918

\$2.00 a Year

CONTENTS

ORIGINAL ARTICLES

PAGE

The Diagnosis of Pulmonary Tuberculosis in the Army. <i>R. S. Berghoff, M. D., Comp Grant, Ill.</i>	241
Further Objections to Compulsory Health Insurance. <i>Edward H. Ochsner, M. D., Chicago</i>	244
The Army Medical Corps. <i>E. J. Doering, M. D., Chicago</i>	250
Diagnostic Signs of Tuberculosis of the Bronchial Glands. <i>Walter B. Metcalf, M. D., Chicago</i>	252
Cancer of Rectum Operated on Through Vaginal Incision. <i>Charles J. Drucek, M. D., Chicago</i>	255
On the Value of Accurate Localization of Foreign Bodies in the Eye. <i>John R. Hoffman, M. D., Wilmette, Ill.</i>	260

ORIGINAL ARTICLES

PAGE

Prostatectomy. <i>Floyd Stewart, M. D., St. Louis, Mo.</i> ...	263
Stillbirth Due to Infection. <i>Ed. L. Cornell, M. D., Chicago</i>	266
The Treatment of Otosclerosis from an Etiological Stand- point. <i>H. L. Pollock, M. D., Chicago</i>	268
The Pathogenesis of Ophthalmia Eczematosa. <i>Michael Goldenburg, M. D., Chicago</i>	272
Incipient Squint. <i>E. J. Gordiner, M. D., Chicago</i>	277

(Continued on page 36)

Entered as Second-Class Matter August 28, 1913, at the Post Office, Chicago, Illinois, under the Act of March 3, 1879
Acceptance for mailing at special rate of postage provided for in Section 1103, Act of October 3, 1917, authorized on July 15, 1918.

A 100 Per Cent Service Work

Musser and Kelly's Practical Treatment

Musser and Kelly's "Practical treatment" puts you in close touch with the combined experience and teaching of 108 *leading internists and specialists* of America and England. With it you can prescribe the most modern treatment, whether drug, hydrotherapy, vaccine therapy, or any other modern therapy.

Volume IV gives you in its 1000 pages the *new* treatment, the *new* methods of diagnosis. It supplements every work on therapeutics in your library—pediatrics, gynecology, genito-urinary diseases, vaccine therapy, electro-therapy, roentgen ray work, infectious diseases, nervous and mental conditions. There is no work within the domain of non-surgical treatment it does not supplement. It is 100 *per cent. new*, and it makes Musser and Kelly's "Practical Treatment" a 100 *per cent. service work*.

The Desk Index Volume—Each volume, of course, carries its own individual index, but in addition we give you free a *separate desk index* to the entire work (four volumes). Referring to this index puts you in instant touch with every item in the entire four volumes on any subject treated in the work.

Four octavos, totaling 3859 pages, illustrated. By 108 specialists. *Volumes I, II, and III* edited by John H. Musser, M. D., and A. O. J. Kelly, M. D. *Volume IV*, edited by John H. Musser, Jr., M. D., and Thomas C. Kelly, M. D. Per set: Cloth, \$25.00 net.

W. B. SAUNDERS COMPANY

Philadelphia and London

This Issue, 6,750 Copies.

An Aid in Convalescence

"Horlick's" is clean, safe and dependable. Its quality assures service and results. Fats, proteids, carbohydrates and salts are properly proportioned and in easily assimilated form to progressively build up the patient.

To avoid imitations

SPECIFY

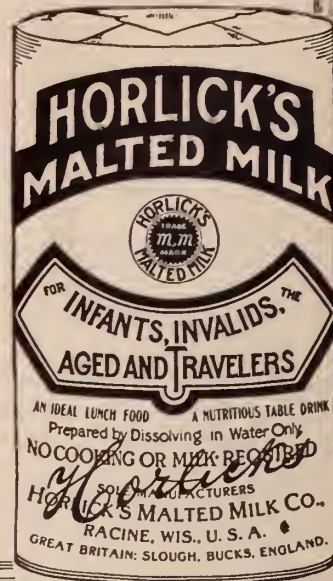
"Horlick's the Original"

Samples Sent Upon Request

Horlick's Malted Milk Co.

Racine, Wis.

*This is the package
Avoid Imitations*



RADIUM SERVICE

BY

THE PHYSICIANS' RADIUM ASSOCIATION OF CHICAGO

(Incorporated under the laws of Illinois: "Not for profit")

Established to make Radium more available for approved therapeutic purposes in the Middle West. Has the large and complete equipment needed to meet the special requirements of any case in which Radium Therapy is indicated. Radium furnished to responsible physicians; or certain cases may be sent to our office for treatment. Advice given about the use of Radium. Moderate rental fees charged.

THE PHYSICIANS' RADIUM ASSOCIATION

1104 Tower Bldg., 6 N. Michigan Ave.

Telephones: Randolph 6897-6898.

Board of Directors: WILLIAM L. BAUM, M.D.; N. SPROAT HEANEY, M.D.; THOMAS J. WATKINS, M.D.; FREDERICK MENGE, M.D.; ALBERT WOELFEL, M.D. Managing Director: ALBERT WOELFEL, M.D.

Pollen Antigen*-Lederle

Effectually protects against

Hay-Fever

DURING the three years of 1915, 1916, and 1917 **POLLEN ANTIGEN-LEDERLE** was used for hay-fever sufferers by over 5,000 physicians in 44 states of the Union. In each of these years, favorable results were obtained in 80% of the cases; either hay-fever did not develop or, mild symptoms persisted for a few days only.

POLLEN ANTIGEN-LEDERLE is prepared from pure pollen grains; it is standardized serologically against antipollen serum by determining its active anti-genic power and not chemically for nitrogen content; it possesses the most complete and stable antigenic properties of any pollen extract that has been described; it is manufactured under U. S. Government license and may be used without preliminary diagnostic tests.

POLLEN ANTIGEN-LEDERLE is supplied as follows:

Complete Series, Doses 1 to 15, \$15.00
 Series A,.....Doses 1 to 5, \$5.00
 Series B,.....Doses 6 to 10, \$5.00
 Series C,.....Doses 11 to 15, \$5.00

Booklet sent on request

Lederle Antitoxin Laboratories

NEW YORK

CHICAGO

839 Marshall Field Annex
 Building

KANSAS CITY

Firestone Building
 20th St. and Grand Ave.

NEW ORLEANS

1120 Maison Blanche
 Building

***POLLEN ANTIGEN-LEDERLE** has been prepared by the Lederle Antitoxin Laboratories and marketed as Pollen Vaccine for the past three years. Leading medical authorities are striving to prevent confusion in nomenclature and wish to limit the use of the word "vaccine" to preparations derived from pathogenic microorganisms. Cooperating with this endeavor we have changed the name of Pollen Vaccine and in the future this product will be known as **POLLEN ANTIGEN-LEDERLE**

THE RADIUM INSTITUTE

1604 Mallers Bldg., 59 E. Madison St.
Corner Wabash Ave., Tel. Randolph 5794
C H I C A G O

DR. FRANK E. SIMPSON

COUNCIL

DR. F. A. BESLEY DR. E. C. DUDLEY
DR. A. R. EDWARDS DR. O. T. FREER
DR. M. HERZOG DR. L. E. SCHMIDT
DR. G. F. SUKER

*T*REATMENT of Malignant and Benign Growths with Radium; Postoperative Prophylactic Radiations following the Surgical Treatment of Cancer.

Radium is indicated in inoperable malignant conditions. By its use an inoperable case may become operable.

We desire to confer and co-operate with surgeons, assuring them adequate amounts of Radium to meet the requirements of patients referred to us.

AIDS IN DIAGNOSIS

Wassermann Test	\$5.00	Autogenous Vaccines	\$5.00
Blood and Spinal Fluid, using both Wassermann and Noguchi system in each case		Smears, Sputa, etc.....	1.00
Complement Fixation Test.....	5.00	Urinalysis	1.50
Gonorrhea, Tuberculosis, etc.		Pasteur Treatment	40.00
Tissue Pathological Examination.....	5.00	(Antirabic Vaccine, P.D. & Co.—Cumming)	
Abderhalden Test	5.00	FREE Bleeding tubes, Sterile containers, Culture Media and instruction for sending specimens	
Pregnancy, Dementia Precox, Carcinoma			

Our names and reputations stand back of our work

ESTABLISHED 1904

CHICAGO LABORATORY

Phone Randolph 3610, 3611, 3612

RALPH W. WEBSTER, M. D., Ph. D., Chemical Dept.
THOMAS L. DAGG, M. D., Pathological Dept.
C. CHURCHILL CROY, M. D., Bacteriological Dept.

25 E. Washington St.
CHICAGO, ILLINOIS



Illinois Medical Journal

OFFICE OF PUBLICATION 3338 OGDEN AVENUE, CHICAGO

Published Monthly

Vol. XXXIV, No. 6

CHICAGO, DECEMBER, 1918

\$2.00 a Year

CONTENTS

ORIGINAL ARTICLES

	PAGE
Gall-Stone Disease Complicating Pregnancy. <i>Aime Paul Heineck, M. D., Chicago</i>	297
Induced Pneumothorax. Its Use in Treatment of Pulmonary Tuberculosis, With Report of 202 Cases. <i>Everett Morris, M. D., New Haven, Conn.</i>	306
Diplococcus Pneumonia. <i>Frank J. Norton, M. D., Chicago</i>	312
The Epidemiology and Prophylaxis of Lobar Pneumonia. <i>Waller Baumgarten, M. D., St. Louis, Mo.</i>	314
A Study of Lobar Pneumonia. <i>Elmer E. Simpson, M. D., Chicago</i>	316
Trench or War Nephritis. (Is it a Clinical Entity?). <i>Milton Mandel, M. D., Chicago</i>	322

ORIGINAL ARTICLES

	PAGE
Proper Diagnosis as a Guide to Prognosis and Operative Treatment of Impaired Hearing. <i>Robert Sonnenschein, M. D., Chicago</i>	324
Sarcoma of the Testicle. <i>John J. Gill, M. D., Chicago</i>	326
The Psychiatry of Dementia Praecox. <i>H. Campbell Stevens, M. D., Chicago</i>	335
The Interpretation of Symptoms in Functional Nervous Disorders. <i>I. B. Diamond, M. D., Chicago</i>	331
Notes on Indications in Kidney Surgery. <i>G. Kolischer, M. D., Chicago</i>	327
EDITORIAL	
Peace on Earth.....	337

(Continued on page 36)

Entered as Second-Class Matter August 28, 1913, at the Post Office, Chicago, Illinois, under the Act of March 3, 1879
Acceptance for mailing at special rate of postage provided for in Section 1103, Act of October 3, 1917, authorized on July 15, 1918.

JUST OUT—NEW (7th) EDITION

Mallory and Wright's Pathologic Technic

The revision of this work was extensive and thorough. Among the important additions are: Goodpasture's acid polychrome methylene-blue stain for frozen sections of fixed tissues and for demonstrating metachromatically the different granules in the islet and acinar cells of the pancreas; Graham's oxidase stain for the granules in the myeloblastic series of cells and leukocytes; Benians' Congo red method for the demonstration of spirochetes; Claudius' stain for flagella the approved method of classifying pneumococci with reference to serum treatment; the use of the safety-razor blade in section cutting; benzene in paraffin embedding, and Rubaschkin's method of fixing celloidin and frozen sections to the slide for staining.

Mallory and Wright's "Pathologic Technic" is complete—it covers its field thoroughly. There is no other work just like it.

Octavo of 555 pages, with 181 illustrations. By FRANK BURR MALLORY, M. D., Associate Professor of Pathology, Harvard Medical School; and JAMES HOMER WRIGHT, M. D., Pathologist to the Massachusetts General Hospital. Cloth, \$3.75 net.

A Very Merry Christmas

W. B. SAUNDERS COMPANY

Philadelphia and London

This Issue, 6,750 Copies.

An Aid in Convalescence

"Horlick's" is clean, safe and dependable. Its quality assures service and results. Fats, proteids, carbohydrates and salts are properly proportioned and in easily assimilated form to progressively build up the patient.

To avoid imitations

SPECIFY

"Horlick's the Original"

Samples Sent Upon Request

Horlick's Malted Milk Co.

Racine, Wis.

*This is the package
Avoid Imitations*



RADIUM SERVICE

BY

THE PHYSICIANS' RADIUM ASSOCIATION OF CHICAGO

(Incorporated under the laws of Illinois: "Not for profit")

Established to make Radium more available for approved therapeutic purposes in the Middle West. Has the large and complete equipment needed to meet the special requirements of any case in which Radium Therapy is indicated. Radium furnished to responsible physicians; or certain cases may be sent to our office for treatment. Advice given about the use of Radium. Moderate rental fees charged.

THE PHYSICIANS' RADIUM ASSOCIATION

1104 Tower Bldg., 6 N. Michigan Ave.

Telephones: Randolph 6897-6898.

Board of Directors: WILLIAM L. BAUM, M.D.; N. SPROAT HEANEY, M.D.; THOMAS J. WATKINS, M.D.; FREDERICK MENGE, M.D.; ALBERT WOELFEL, M.D. Managing Director: ALBERT WOELFEL, M.D.

Pollen Antigen*-Lederle

Effectually protects against

Hay-Fever

DURING the three years of 1915, 1916, and 1917 **POLLEN ANTIGEN-LEDERLE** was used for hay-fever sufferers by over 5,000 physicians in 44 states of the Union. In each of these years, favorable results were obtained in 80% of the cases; either hay-fever did not develop or, mild symptoms persisted for a few days only.

POLLEN ANTIGEN-LEDERLE is prepared from pure pollen grains; it is standardized serologically against antipollen serum by determining its active anti-genic power and not chemically for nitrogen content; it possesses the most complete and stable antigenic properties of any pollen extract that has been described; it is manufactured under U. S. Government license and may be used without preliminary diagnostic tests.

POLLEN ANTIGEN-LEDERLE is supplied as follows:

Complete Series, Doses 1 to 15, \$15.00

Series A,Doses 1 to 5, \$5.00

Series B,Doses 6 to 10, \$5.00

Series C,Doses 11 to 15, \$5.00

Booklet sent on request

Lederle Antitoxin Laboratories

NEW YORK

CHICAGO
839 Marshall Field Annex
Building

KANSAS CITY
Firestone Building
20th St. and Grand Ave.

NEW ORLEANS
1120 Maison Blanche
Building

***POLLEN ANTIGEN-LEDERLE** has been prepared by the Lederle Antitoxin Laboratories and marketed as Pollen Vaccine for the past three years. Leading medical authorities are striving to prevent confusion in nomenclature and wish to limit the use of the word "vaccine" to preparations derived from pathogenic microorganisms. Cooperating with this endeavor we have changed the name of Pollen Vaccine and in the future this product will be known as **POLLEN ANTIGEN-LEDERLE**

THE RADIUM INSTITUTE

1604 Mallers Bldg., 59 E. Madison St.
Corner Wabash Ave., Tel. Randolph 5794
C H I C A G O

DR. FRANK E. SIMPSON

COUNCIL

DR. F. A. BESLEY DR. E. C. DUDLEY
DR. A. R. EDWARDS DR. O. T. FREER
DR. M. HERZOG DR. L. E. SCHMIDT
DR. G. F. SUKER

*T*REATMENT of Malignant and
Benign Growths with Radium;
Postoperative Prophylactic Radiations
following the Surgical Treatment of
Cancer.

*Radium is indicated in inoperable
malignant conditions. By its use an
inoperable case may become operable.*

*We desire to confer and co-operate
with surgeons, assuring them adequate
amounts of Radium to meet the re-
quirements of patients referred to us.*

AIDS IN DIAGNOSIS

Wassermann Test\$5.00
Blood and Spinal Fluid, using both Wasser-
mann and Noguchi system in each case
Complement Fixation Test..... 5.00
Gonorrhea, Tuberculosis, etc.
Tissue Pathological Examination....5.00
Abderhalden Test 5.00
Pregnancy, Dementia Precox, Carcinoma

Autogenous Vaccines\$5.00
Smears, Sputa, etc..... 1.00
Urinalysis 1.50
Pasteur Treatment40.00
(Antirabic Vaccine, P.D. & Co.—Cumming)
FREE Bleeding tubes, Sterile containers, Culture
Media and instruction for sending specimens

Our names and reputations stand back of our work

ESTABLISHED 1904

CHICAGO LABORATORY

Phone Randolph 3610, 3611, 3612

RALPH W. WEBSTER, M. D., Ph. D., Chemical Dept.
THOMAS L. DAGG, M. D., Pathological Dept.
C. CHURCHILL CROY, M. D., Bacteriological Dept.

25 E. Washington St.
CHICAGO, ILLINOIS



Mention ILLINOIS MEDICAL JOURNAL when writing to advertisers

